Established 1835.

The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

An Illustrated Record of Mining, Metallurgical, Railway, Financial, Industrial, And Engineering Progress.

[*The* MINING JOURNAL *is Registered at the General Post Office as a Newspaper and for Transmission Abroad.*]

No. 3115.—VOL. LXV. LONDON, SATURDAY, MAY 4, 1895. PRICE ..... SIXPENCE. BY POST, £1 4s. PER ANNUM.

A. CORNFORTH AND CO.,
STOCK BROKERS AND MINING SHARE DEALERS,
33, OLD BROAD STREET, E.C.; AND
Mining Exchange, London.

BUSINESS IN ALL CLASSES OF STOCKS AND SHARES. SPECIAL BUSINESS in KAFFIR Shares. Prompt Delivery made a special feature.
Mining Circular free on application.
BANKERS: CITY BANK.—Telegraphic Address: "Athelney, London."

ASSAY OFFICE AND LABORATORY.
B. KITTO'S,
30 and 31, ST. SWITHIN'S LANE, LONDON, E.C.

ASSAYS MADE OF ALL ORES. ANALYSES.
ASSAYING TAUGHT.

E. HENRY DAVIES, F.G.S.,
CONSULTING MINING ENGINEER,
6, GREAT WINCHESTER STREET, LONDON, E.C.
Author of "Machinery for Metalliferous Mines."
Joint Author of "Metalliferous Mines and Mining."
"Earthy and other Minerals and Mining."
Undertakes the INSPECTION and MANAGEMENT of MINES at home and abroad, and the introduction of approved Properties to Capitalists. Minerals of all descriptions purchased in large or small quantities.

J. A. JONES, Mining Engineer,
(M.Inst.M.M., M.N.Eng.Inst.M.M.E.)
GIJON (ASTURIAS), SPAIN.

MINERAL PROSPECTING
AND
BORINGS FOR WELLS.
Large Experience. Quick Speed Work Guaranteed.
APPLY TO
VIVIAN'S BORING & EXPLORATION CO.,
(LIMITED)
WHITEHAVEN.
Deepest Borehole in England (3195 feet) put down by this Company who have completed about 56 miles of boring.
Telegraphic Address: "DIAMOND, WHITEHAVEN."

PUMPING MACHINERY.

See Illustrated Advertisement every Third Week.

HATHORN, DAVEY and CO., LEEDS.

THE WEST AUSTRALIAN REVIEW
A WEEKLY JOURNAL
For ALL INTERESTED in WEST AUSTRALIAN AFFAIRS.
EVERY THURSDAY, THREEPENCE.
Edited and owned by **ALBERT F. CALVERT, F.R.G.S.**, &c.
Author of "Discovery of Australia;" "Mineral Resources of Western Australia," &c.
"THE WEST AUSTRALIAN REVIEW" contains Special Articles on the Gold Fields of Western Australia.
OFFICE—47, OLD BROAD STREET, E.C.

CANNOCK CHASE COAL BY CANAL AND RAILWAY.

THE COMPANY SEND COAL BY RAILWAY in Trucks to all Stations, and load Canal Boats at their extensive Wharves on the Anglesey Branch of the Birmingham Canal, adjoining the Colliery; and also at Hednesford Basin, Cannock. For Prices, apply to
J. NEWLAND BROWN,
WARWICK CHAMBERS, CORPORATION STREET,
BIRMINGHAM.
Retail Department: COLMORE CHAMBERS, 1, NEWHALL ST., Birmingham.
London Office: 9 and 10, Southampton Street, High Holborn, W.C.

GOLD ASSAYING, &c.

GENTLEMEN having only a short time at their disposal can obtain SPECIAL INSTRUCTION in ASSAYING ORES of all kinds.
For Prospectuses, &c., apply to
MARTIN and PETHYBRIDGE,
ASSAYERS, &c., LABORATORY AND TESTING WORKS
183, KING'S ROAD, CHELSEA, S.W.

Complete Analysis of Constituents of any Ore from £1 1s. to £2 2s.
GOLD ASSAYS CONDUCTED WITH CHECK, 7S. 6D. PER SAMPLE.
GOLD ORES PRACTICALLY TESTED BY STAMP BATTERY
And other processes.

Messrs. PETER WATSON and Co.,
8, FINSBURY CIRCUS, LONDON, E.C.
(NEAR TO THE STOCK EXCHANGE, AND THE MINING EXCHANGE.

ALL ORDERS and TELEGRAPHIC MESSAGES to Buy or Sell Railway, Bank, Mine, and other Shares and Stocks punctually attended to, at Net Price, for Cash, or for Fortnightly Settlements, with advice as to Purchases or Sales, to be addressed to Messrs. PETER WATSON and Co.

Mr. J. GRANT MACLEAN,
Sharebroker and Ironbroker, Stirling, N.B.
Refers to his Share Market Report on page 512 of to-day's Journal.

A. and Z. DAW,
CONSULTING MINING ENGINEERS AND MINE MANAGERS,
11, QUEEN VICTORIA STREET, LONDON, E.C.
INSPECT AND REPORT UPON FOREIGN METALLIFEROUS MINES, AND UNDERTAKE THEIR MANAGEMENT AND ADMINISTRATION.

GEORGE GREGORY and CO.,
STOCK AND SHARE DEALERS,
LONDON, MANCHESTER, LIVERPOOL, BRIGHTON, HASTINGS.

Every Investor and Speculator, before operating, should read Gregory's "Hints to Speculators." 400 pages. Eighth Edition, Illustrated. Gratis and post free on application to
GEORGE GREGORY & CO.,
STOCK AND SHARE DEALERS,
NOS. 3 AND 4, TOKENHOUSE BUILDINGS, LOTHBURY, BANK OF ENGLAND, LONDON, E.C., and BRANCHES.

WALTER de VARILA, M.E., T.E., F.C.S.
Room 12, 316, CALIFORNIA STREET.
RESIDENCE: 820½ BUSH STREET, SAN FRANCISCO, CALIFORNIA.

MINES SAMPLED, ASSAYED, AND REPORTED ON.
PROPERTIES MANAGED, BONDED, AND SOLD.
FOREIGN CORRESPONDENCE SOLICITED.

"AUSTRALIAN GOLD FIELDS:
A MONTHLY RECORD OF
AUSTRALIAN GOLD MINES and MINING COMPANIES,
MARCH NUMBER CONTAINS
The LATEST CABLE ADVICES, MINE REPORTS, &c
STATISTICS of OUTPUT, YIELD, & DIVIDENDS,
with MAPS and PLANS of WORKINGS.
COMPILED BY
F. G. McCUTCHEON,
STOCK AND SHARE BROKER.
Price 3d.; Post free, 3½d.; Annual Subscription (including Postage) 3s. 6d. Gold Mining Shares Bought and Sold. Latest information given to Correspondents with reference to Australian Mines.
PUBLISHED AT 5, LOTHBURY, LONDON, E.C.; and at Messrs. W. H. SMITH and SONS' Bookstalls. Orders received at all BOOKSELLERS and NEWS AGENTS.

BRITISH GUIANA AND THE NEW GOLD INDUSTRY.

BRITISH GUIANA BANK.
Incorporated by Ordinance of the Governor and Court of Policy of British Guiana 11th November, 1836.
Confirmed by the Queen in Council, 6th October, 1838.
SUBSCRIBED CAPITAL..... $1,400,000 | PAID-UP..... $926,520
RESERVE FUND, $288,000
CHAIRMAN: Mr. HUGH SPROSTON, JUN.
HEAD OFFICE: GEORGETOWN, DEMERARA.
MANAGER: GEO. W. LANE. | ACCOUNTANT: E. J. N. THOMAS.
BRANCH OFFICE: NEW AMSTERDAM, BERBICE.
AGENTS, London..... Smith, Payne, and Smiths.
New York..... Maitland, Phelps, and Co.
British North America Bank of British North America.
Newfoundland ..... Union Bank of Newfoundland.
Current Accounts opened in accordance with the usual practice of Bankers.
Money Received on Deposit on Interest. Bills of Exchange negotiated.
Letters of Credit issued by London Agents on Demerara free of charge.
Raw Gold Purchased or Shipped on Consignment.
Bills Collected and every other description of Banking Business transacted

THE BANK OF AFRICA (LIMITED).
ESTABLISHED 1879.
Head Office, 113, Cannon Street, London.
SUBSCRIBED CAPITAL £750,000
Paid-up, £250,000; Reserve Fund, £142,500.
General Manager—JAMES SIMPSON, Cape Town.
BRANCHES
Aliwal North, Cape Town, Cradock, East London, Grahamstown, Kimberley King Williams Town, Oudtshoorn, Paarl, Port Elizabeth, Queen's Town Bethlehem, Bloemfontein, Fauresmith, Harrismith, Ladybrand, Winburg Durban, Newcastle, Pietermaritzburg, Barberton, Johannesburg, Pretoria Vrijheid, Beira, Delagoa Bay.
The Bank issues drafts, makes telegraphic remittances, buys and collects bills, and conducts all kinds of banking business.
Deposits received on terms which may be ascertained on application.
R. G. DAVIS, Secretary.

R. C. CAMPBELL-JOHNSTON.
(OF SWANSEA, INDIA, AND THE STATES.)
THREE YEARS IN BRITISH COLUMBIA.
MINING ENGINEER AND METALLURGIST,
POSTAL ADDRESS: BOX 40 VANCOUVER, B.C.
CABLE ADDRESS: CAMPBELL-JOHNSTON, VANCOUVER.
A.B.C. CODE.
MINES EXAMINED AND REPORTED ON, DEVELOPED AND MANAGED.
Furnaces, Mills, and Mining Plants Planned and Erected.
ORES BOUGHT AND SOLD.

A. G. CHARLETON,
MINING AND METALLURGICAL ENGINEER,
Memb. North of England Inst. of Mining & Mechanical Engineers, A.R.S.M.,
Mem. American Inst. of Mining Engineers,
Address, Dashwood House, E.C.

THE GOLD FIELDS OF WESTERN AUSTRALIA.
ALBERT F. CALVERT,
MINING ENGINEER.
Author of "Western Australia and its Gold Fields"—"The Discovery of Australia"—"The Mineral Resources of Western Australia," &c., &c.
Editor and Proprietor of the *West Australian Review*, a Weekly Newspaper, devoted to Westralian interests.
Undertakes MANAGEMENT, INSPECTIONS, SURVEYS, and guarantees reliable Mining Reports on all West Australian and other Mines.
Writing to the *Financial News* of 23rd November, on the Gold Fields of Western Australia, Lord Percy Douglas says:—"From his intimate knowledge of the subject, gained by personal experience in Western Australia, as well as on nearly every gold field in the world, I consider there is no one better qualified to express an opinion on the subject than he (Mr. Albert F. Calvert). In fact, he is the only man that I know of in this country who has visited all the gold fields of this immense colony."
Address—47, Old Broad Street, E.C.
Telegrams and Cables—"Quarterage, London."

Messrs. PARKYN and CO.,
MINE OWNERS AND MANAGERS, CONSULTING MINING ENGINEERS AND MINING SPECIALISTS,
UNIVERSAL MINING OFFICES, ROCHE, CORNWALL.
INSPECTIONS, EXPLORING, OPENING-UP and MANAGEMENT of MINES undertaken at home or abroad. Have opened a Mining Inquiry Department, in which, upon payment of a fee of 5s., we reply to any questions relating to Mining matters. Should be consulted by all interested in Mines and Mineral Properties. Latest information *re* the Gold Fields of Australia.

WESTERN AUSTRALIA.
Mr. BRENTON SYMONS, F.C.S., M.I.C.E.,
MINING ENGINEER,
Who has just sailed for the Mining centres of Coolgardie, Murchison, &c., is prepared to undertake INSPECTIONS and SURVEYS, and to Report and Advise upon Mines, Machinery, &c.
For terms and particulars apply to Messrs. PERKINS and St. STEPHENS Consulting Mining Engineers, 1, Sherborne Lane, King William Street, London, E.C.

J. M. SMITH,
Late Manager of the "AUSTRALIAN MINING STANDARD," is now located at
COOLGARDIE, WESTERN AUSTRALIA,
And is prepared to act as Trustee or Local Agent for English Companies. Mines Inspected on reasonable fee. First-class Properties for Sale. Highest references and credentials.
Use NEALE and MOREING'S Code.

Captain Wm. WILLIAMS, M.A.I.M.E.,
MINE MANAGER, CONSULTING MINING ENGINEER, &c.
76, Eyre Street, and 25, Mining Exchange,
BALLARAT, VICTORIA.
Undertakes the INSPECTION, REPORTING, and MANAGEMENT of MINES and MACHINERY in any part of Australasia. Also the Collection of Mines for absentees.
(UPWARDS OF 20 YEARS HIGHEST REFERENCES AND CREDENTIALS.)

807 pp. Royal 8vo., Well Bound in Cloth, 21s.
McNEILL'S
MINING AND GENERAL TELEGRAPHIC CODE,
Containing over Forty-four Thousand Phrases.
By BEDFORD McNEILL, F.G.S., &c., Mining Engineer.
"Undoubtedly the most complete technical code existing."—*Industries.*
LONDON: WHITEHEAD, MORRIS & Co., LTD., 9, Fenchurch St., E.C.
CAPE TOWN: E. R. MORRIS, Belfast Chambers.
ADELAIDE, PERTH, BROKEN HILL, } AUSTRALIA, E. S. WIGG & SON.

AUSTRALIAN MINERALS.
COLLECTIONS of AUSTRALIAN MINERALS for Show Cases or for technical purposes supplied to order. Price from £2 2s. upwards On receipt of order with remittance a collection will be made up and dispatched without delay.
MINES REPORTED ON.
J. B. AUSTIN, Mineralogist, Adelaide, S.A.

For Index to Advertisements see Page 502. For Literary Contents see Page 516.

INDEX TO ADVERTISEMENTS.

(THOSE WITHOUT NUMBER OF PAGE DO NOT APPEAR IN THIS ISSUE.)

	PAGE.
Austin, J. B. ... ... Mineralogist	501
Bandell, H. E. ... ... Agent for Foreign Houses, &c.	516
Bank of Africa, (Ltd.)	501
British Guiana Bank	501
Bennett, Sons, and Co, ... Fuse Manufacturers	—
Birkbeck Bank	526
Bowes-Scott and Western ... ... Mining Machinery	—
Bute Works Supply Company (Limited) ... ... Steel Rails, &c.	516
Business Cards	526
Campbell-Johnston, R. C. ... ... Mining Engineer	501
Calvert, Albert F. ... ... Mining Engineer	501
Cannock Chase Colliery Company ... ... Coal Exporters	501
Cassel Gold Extracting Co. (Ltd.) ... MacArthur-Forrest Process	527
Champion Rock Borer Co. ... ... Rock Borers	503
Charleton, J. G. ... ... Mining Engineer	501
Cheque Bank (Limited)	526
Clarkson-Stanfield Concentrator (Ltd.) ... Dry Concentration	505
Clayton and Shuttleworth ... ... Engineers	528
Companies and Legal Announcements	525
Cornforth and Co. ... ... Share Dealers	501
Cotton Powder Co. (Ltd.) ... ... Explosives	532
Davies, Henry ... ... Mining Engineer	501
Davis and Son ... ... Mining, &c., Instruments	505
Daw, A. and Z. ... ... Mining and Civil Engineers	501
Daw, A. and Z. ... ... Rock Drills	527
Delta Metal Co. (Ltd.) ... ... Metal	529
Dixon and Co. ... ... Iron Roofs and Buildings	—
Electrical Co. (Ltd.) ... ... Dynamos and Motors	530
Elliman, Sons, and Co, ... Embrocation	531
For Sale	525
Francis and Jenkins ... ... Copper Works Ladles	527
Fraser and Chalmers (Ltd.)... ... ... Mining Machinery	502
Frictionless Engine Packing Company ... Engine Packing, &c.	503

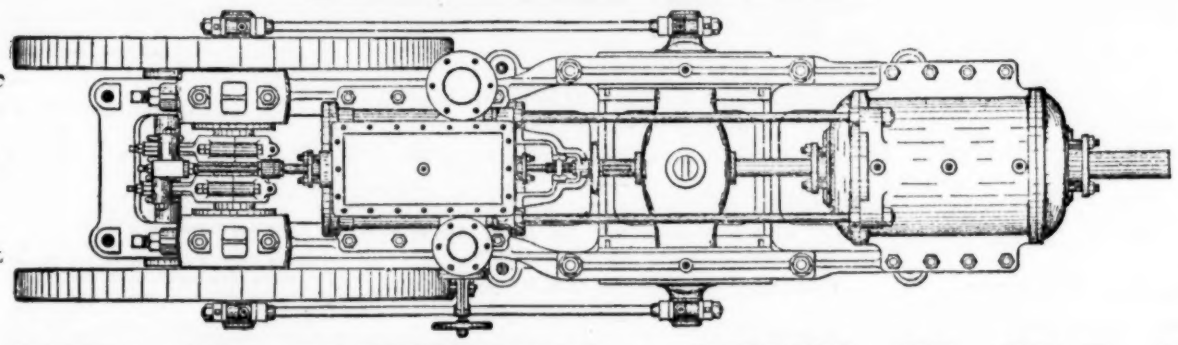
	PAGE
Gates Ironworks Co. ... ... Rock and Ore Breaker	528
Gilkes and Co. ... ... Turbines	528
Green, G. ... ... Ore Dressing Machinery	504
Gregory, G , and Co, ...Stock and Share Dealers	5 1
Hardy Patent Pick Co, ... High Class Tools	530
Hathorn, Davey and Co. ... ... Pumping Engines	529
Holman Bros. ... ... Rock Drills and Compressors	505
Howes, S. ... ... Turbines	527
Humboldt Engineering Works Co. ... ... Mining Machinery	—
Humble, S., jun. ... ... Hand Power Fan	—
Huntington, Professor ... ...Instruction in Assaying	—
Ingersoll-Sergeant Drill Co, of America, Rock Drills and Compressors	502
Ireland, James ... ... *Colliery Ready Reckoner*	525
Jones, J. A. ... ... Mining Engineer	501
Kitto, B. ... ... Assay Office	501
Krupp Grusonwerk... ... ... Ore Extraction Machinery	—
Lambert's Wharfage Company	515
Larmuth, T., and Co ... ... Mining Machinery	—
Lancashire Patent Belting Co. ... ... Mining Specialities	527
Lancaster and Tonge ... ... Steam Pistons	503
Lloyd and Lloyd ... ... Tubes	532
Maclean, J. Grant ... ... Share and Iron Broker	501
McNeill's Code	501
Marsden, H. R. ... ... Stone Breakers and Ore Crushers	532
Martin and Pethybridge ... ... Assay Laboratory	501
Merry and Co. ... ... Assayers	—
Merton and Co. ... ... Aluminium	504
Miners' Safety Explosive Com. (Ltd.) ... ... Explosives	—
Nobel's Explosives Co. (Ltd.) ... ... Water Cartridges, &c.	531
Pacific Mining Agency and Trust Company... Commission Agency	516
Parkyn and Co., Messrs. ... ... Mine Owners and Managers	501
Parkin ... ... Signal Bells	529
Pass and Son ... ... Buyers of Lead Ashes, &c.	516
Phosphor Bronze Co. (Ltd.)... ... ... Bulls Metal, &c.	526

	PAGE.
Piggott and Co. ... ... Welded and Riveted Pipes	528
Publications	525
Robey and Co. ... ... Engines and Ore Crushers	531
Roburite Explosives Co. (Ltd.) ... ... Explosives	—
Ropeways Syndicate ... ... Aerial Wire Ropeways	527
Rose, James ... ... *New Guide to the Iron Trade*	525
Sales by Auction	525
Sandycroft Foundry Company ... ... Mining Machinery	529
Sandycroft Foundry Company ... ... Electrical Machinery	—
Schram and Co. ... ... Rock Drills and Compressors	504
Seward, William ... ... Share Dealer	—
Shipping...	526
Smith, J. M. ... ... Mines Inspected	501
Spencer, John ... ... Iron and Steel Tubes	—
Stanley, W. F. ... ... Mathematical Instruments	502
Stewart and Clydesdale ... ... Iron and Steel Tubes	504
Stewart and Co. (Ltd,) ... ... Engineers and Boiler Makers	528
Symons, Brenton ... ... Mining Engineer	501
Tacknote ... ... *Form of Licence to Explore*	525
Tangyes Limited ... ... Engines, &c.	503
To Let	525
Tuck and Co. (Ltd.) ... ... Packing Manufacturers	532
United Asbestos Co. (Ltd.)... ... ... Asbestos	529
Unity Safety Fuse Co. ... ... Safety Fuse	5 2
Varila, Walter de ... ... As a er	501
Vivian's Boring Co. (Ltd.) ... ... Boring Machinery	501
Walker Brothers ... ...Air Compressing Engines	504
Wanted	525
Ward, Thos W. ... ... Rails, &c.	529
Watson, P. and Co. ... ... Share Dealers	501
Weatherdon, J. H .. .. "Monarch" Rock Drill	527
Weldless Chain Company (Limited)	—
Wiggin and Co. (Ltd.) ... ... Nickel Refiners	516
Williams, Captain William ... Consulting Mining Engineer	501
Wood, Charles ... ... Portable Railways, &c.	503

INGERSOLL-SERGEANT

PISTON INLET COLD-AIR COMPRESSORS.

A. E. W. GWYN,
AGENT.



TELEGRAMS:
"ENYAM, LONDON."

A HIGH DUTY AIR COMPRESSOR, STEAM OR BELT ACTUATED.
DUPLEX CORLISS AIR COMPRESSORS. DIAMOND and PROSPECTING DRILLS.

Write for Catalogue.

THE INGERSOLL-SERGEANT DRILL CO., 114A, QUEEN VICTORIA ST., LONDON, E.C.

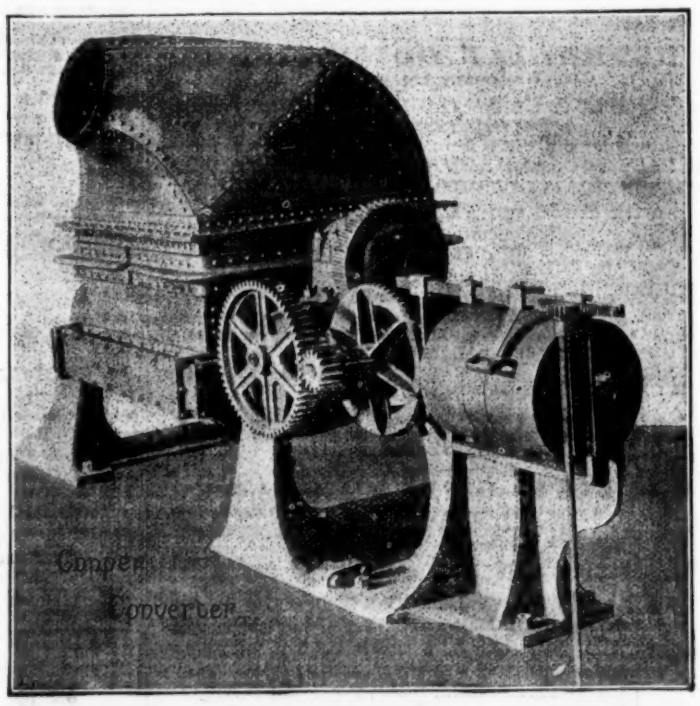
COPPER SMELTING AND REFINING PLANTS.

THE LATEST IMPROVED ROASTING AND WATER JACKET SMELTING FURNACES FOR COPPER AND LEAD ORES, AND EVERY VARIETY OF MACHINERY USED IN MODERN SMELTING, REFINING, AND ELECTROLYTIC WORKS.

SPECIAL EXPERIENCE IN MACHINERY FOR BESSEMERISING COPPER MATTE, ALSO FOR THE DIRECT PYRITIC SMELTING OF SULPHURETTED COPPER ORES BY THE AUSTIN IMPROVED SYSTEM WITHOUT THE USE OF FUEL.

Improved Blowing Engines for Refining Works.

PECIAL CATALOGUES ON APPLICATION.



FRASER AND CHALMERS,
LIMITED.

Makers of all Classes of Improved MINING, MILLING, SMELTING, CONCENTRATION and LEACHING MACHINERY.

HIGH-CLASS CORLISS AND OTHER STEAM ENGINES, WITH EFFICIENCY GUARANTEED.
BOILERS. PUMPS. HOISTING ENGINES.
PERFORATED METAL WORK. ROCK DRILLS.
DIAMOND DRILLS. COMPRESSORS.
PELTON WATER WHEELS. LEFFEL TURBINES.
FINE CRUSHING ROLLS.
CRUSHERS AND HUNTINGTON MILLS.
RIEDLER PUMPS & COMPRESSORS.
SCHWOERER SUPERHEATERS.
FURNACES FOR PYRITIC SMELTING.
COPPER BESSEMERISING AND REFINING PLANTS

WORKS— ERITH, KENT. CHICAGO, ILL., U.S.A.
OFFICE— 43, Threadneedle St., LONDON, E.C.

THE AFRICAN REVIEW.

THE RECOGNISED ORGAN OF THE SOUTH AFRICAN MINING INDUSTRIES.

Published every Saturday. Price 3d. Subscription 15s., Post Free in the U.K., or £1 1s. abroad, payable in advance. Cheques and Postal Orders to be made payable to WILLS, CANNELL, & RIDER HAGGARD (LIMITED), 10, Basinghall Street, E.C. Subscription forms on application.

Mining News from the WITWATERSRAND and RHODESIAN GOLD FIELDS, the DIAMOND FIELDS, SOUTH WEST AFRICA, MOZAMBIQUE, &c. Special Correspondence from JOHANNESBURG, KIMBERLEY, and elsewhere.

RELIABLE STATISTICS. Financial and Commercial Intelligence from Cape Colony, Congo Free State, East Africa, Egypt, Mozambique, Morocco, Natal, Orange Free State, Rhodesia, South West Africa, Transvaal, &c.

THE AFRICAN REVIEW may be obtained at any of Messrs. W. H. SMITH and SONS' Bookstalls, or from our Agents as under:—

London—Blair's, Pottle's, and Everett's, Royal Exchange; Leathwaite and Simmonds, 1, Pope's Head Alley. Liverpool—J. Trenwith Wills, African Chambers. Capetown—Twycross and Co. Kimberley—W. Roper, *Advertiser* Office. Port Elizabeth—W. Harris and Co Durban—Brunskill and Henderson. Pietermaritzburg—P. Davis and Sons. Barberton—A. W. Bayley and Co., *Gold Field News* Office. Johannesburg—The S. A. Publishing Company (Limited), Leakes Chambers, Simmonds Street; The *Diggers' News* P. and P. Co. (Limited), Simmonds Street P Davis and Sons, Pietersburg—Wm. Brown, *Zoutpansberg Review*. Fort Salisbury (Mashonaland) W. E. Fairbridge.

W. F. STANLEY

Mathematical Instrument Manufacturer

To H.M. Government, Council of India, Science and Art Department, Admiralty, &c.

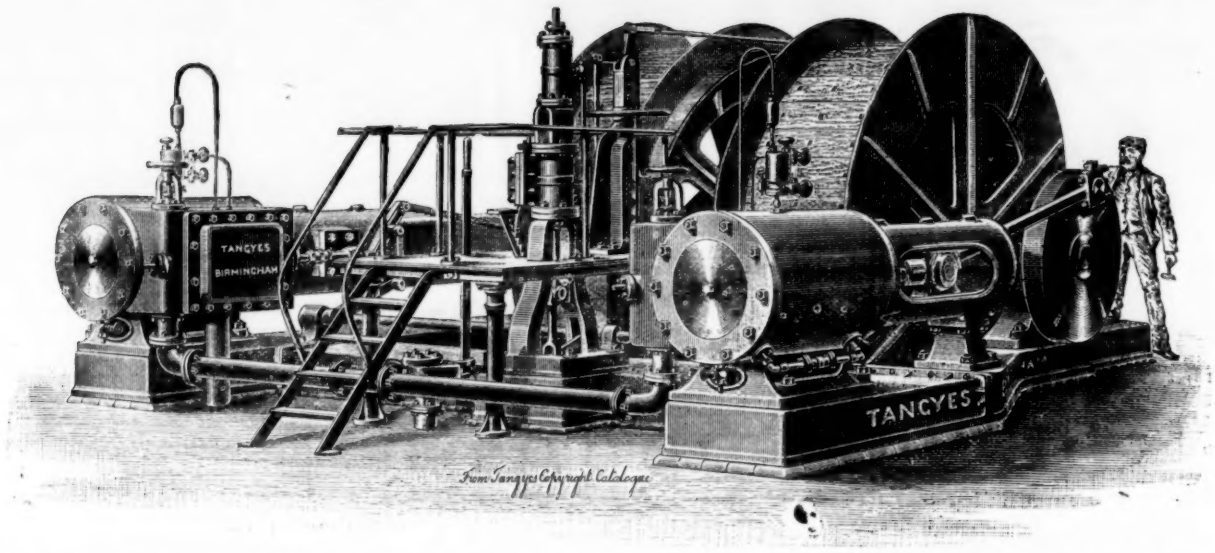
MINING, SURVEYING AND DRAWING INSTRUMENTS

OF EVERY DESCRIPTION, OF THE HIGHEST QUALITY AND FINISH, AT THE MOST MODERATE PRICES.
Price Lists post free.

Address—Great Turnstile, Holborn, London, W.C.

GOLD MEDAL, Inventions Exhibition, 1885
" " Mining " 1890

TANGYES'
COUPLED WINDING ENGINES.



From a Drawing of a Pair of Coupled Winding Engines, having Cylinders 18 inches diameter by 36 inches stroke, and fitted with Steam Reversing Gear. Drums 8 feet diameter—one being loose on shaft and fitted with clutch. The whole is carried on a strong Cast Iron Base Plate, in the centre of which is a Wrought Iron Platform for Engineman, the necessary Levers for working the Engines being placed in convenient positions upon the same.

QUOTATIONS ON RECEIPT OF NECESSARY PARTICULARS OF DUTY AND STEAM PRESSURE.

TANGYES LIMITED, Birmingham.

ALSO AT

London, Newcastle, Manchester, Glasgow, Sydney, Johannesburg, Bilbao, Rotterdam, and Belfast.

Telegrams—TANGYES, BIRMINGHAM. No. 86c.

THE "LANCASTER"
STEAM PISTONS AND TRAPS
ARE ALWAYS SENT ON APPROVAL.
LANCASTER AND TONGE, PENDLETON.

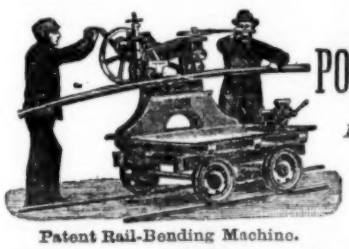
THE WESTERN DAILY MERCURY.
The Paper for News,
The Paper for Advertisements,
The Paper for the People.
THE WESTERN WEEKLY MERCURY.
The Paper for the Household.
These Journals have an enormous circulation throughout Devo and Cornwall, and are conveyed by specially chartered trains.
OFFICES: PLYMOUTH.

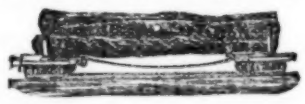
"CHAMPION" ROCK DRILLS

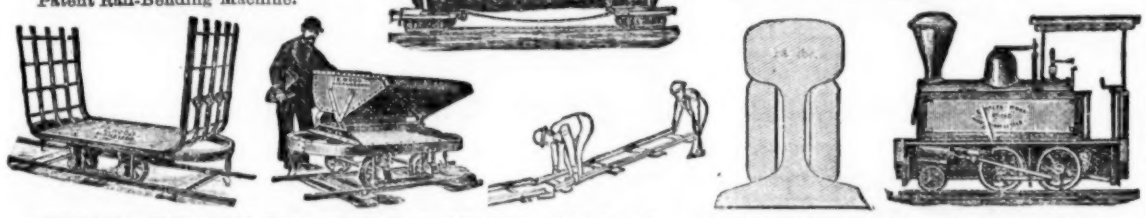
Have all the latest improvements resulting from 19 years' practical experience in constant work.

Unrivalled for efficiency and durability in Sinking Shafts, Driving Levels & Tunnels.

WOOD'S
PORTABLE RAILWAYS & ROLLING STOCK,
FOR PLANTATIONS, MINES, TRAMWAYS, &c.
EMPLOYED at all PARTS of the WORLD.
Illustrated Catalogue, Price Lists, and Estimates forwarded on Application to


Patent Rail-Bending Machine.





CHARLES WOOD, TEES IRON WORKS, MIDDLESBRO', ENGLAND.

TRADE MARK.

Telegraphic Address: "PACKLESS, MANCHESTER." TELEPHONE No. 1498.

Cable Mills, Glasshouse Street, Oldham Road, MANCHESTER.

IMPORTANT NOTICE.

WE have for a number of years been receiving numerous complaints from our Representatives and Agents that buyers have been deceived into purchasing Packings which are called "Frictionless," under the impression that they were buying our manufacture, or Packing of the same quality as the "Electric-Frictionless." To protect ourselves, and in the interest of our customers, we have registered the word "KARMAL," and by this name only will Electric-Frictionless be known in future. The Packing will not be altered in the slightest degree, either in its manufacture or material.

THE FRICTIONLESS ENGINE PACKING CO.
LIMITED.

THE CHAMPION ROCK-BORER AND AIR COMPRESSOR CO.

SOLE PROPRIETORS AND MANUFACTURERS,
E. P. and H. P. VACHER,
MAKERS OF ROCK DRILLS, AIR COMPRESSORS,
TURBINES, WATER WHEELS, WATER MOTORS, RAMS,
AND OTHER
MINING MACHINERY.
63, Queen Victoria Street,
LONDON, E.C.

Telegraphic Address: "TURNSCREW, LONDON."

LIVERPOOL JOURNAL OF COMMERCE
Is the best FINANCIAL and COMMERCIAL PAPER in the Provinces.
Is now Enlarged to Eight Pages.
Contains more Commercial and Shipping News than any other Morning Paper.
Proprietor, CHARLES BIRCHALL, 32, Castle Street, Liverpool
LONDON OFFICE.—38, GRACECHURCH STREET.

WALKERS'
"PATENT"
INDESTRUCTIBLE
VENTILATING FANS
FOR MINES, TUNNELS, &c.
CONSTRUCTORS OF THE VENTILATING MACHINERY AT THE SEVERN AND MERSEY TUNNELS.

PATENT ANTI-VIBRATION SHUTTER
Applicable to all Enclosed Fans

WALKER BROTHERS

Engineers,
Pagefield Ironworks,
WIGAN.

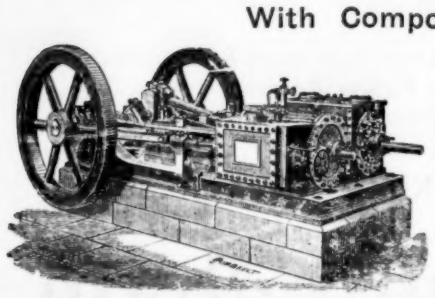
PATENT AIR COMPRESSING ENGINES
GAS COMPRESSING ENGINES
BESSEMER BLOWING ENGINES

upwards of 400 of the above now AT WORK indicating in the aggregate 150,000 Horse-Power

Fisher & Walkers' Patent Friction Clutch & Underground Haulage Machinery
THIS GEARING IS NOW EXTENSIVELY IN USE FOR HAULAGE PURPOSES.
The objects attained are SIMPLICITY, ENDURANCE OF THE MACHINERY AND ROPES with a MINIMUM EXPENDITURE OF POWER.

AIR COMPRESSORS

With Compound Air and Steam Cylinders,
Fitted with SCHRAM'S Inlet and Outlet Valves giving the greatest efficiency.



SCHRAM'S IMPROVED
Rock Boring Machines.
Supplied to the Indian, Colonial, and other Governments.
2500 IN USE in all PARTS of the WORLD.
DIAMOND PROSPECTING DRILLS.
"OPTIMUS" COMPOUND ROCK DRILL.
(P. J. OGLE'S PATENT.)
Consumes 40 per cent. less Compressed Air than any other Drill at the same time giving the most effectual results.
ESTIMATES AND FULL PARTICULARS ON APPLICATION.
RICHARD SCHRAM & CO., 17a, Great George Street, Westminster, S.W.
TELEGRAMS: "SCHRAM, LONDON," A1, A.B.C. and The Engineering Telegraph Codes Used.

Telegrams—Green, Foundry, Aberystwyth.

SILVER MEDALS AWARDED AT THE ROYAL CORNWALL POLYTECHNIC, 1872 & 1876; GOLD MEDAL AWARDED AT THE GREAT INTERNATIONAL MINING EXHIBITION, CRYSTAL PALACE, 1890.

ONLY AWARDS GIVEN FOR CONCENTRATION PLANTS

GEORGE GREEN'S PATENT
Self-Acting or Automatic Ore Dressing Machinery,
A Special Plant, on a reduced scale, has been erected at the Works by which samples of METALLIC ORES—up to Five Tons may be treated, and the commercial value determined, in this way the most suitable arrangement of Plant is ascertained, a considerable advantage to intending Purchasers of Crushing and Concentrating Plant.

GOLD STAMP AND OTHER MILLS.

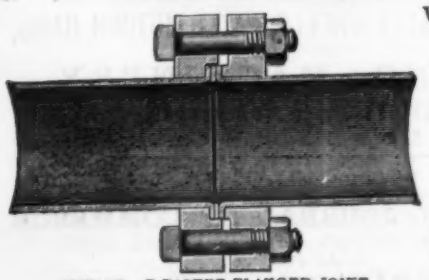
GEORGE GREEN,
THE FOUNDRY, ABERYSTWYTH.

For PURE ALUMINIUM
98 to 99½ per cent. (98 per cent. minimum guaranteed) in
INGOTS, STICKS, & ROLLING SLABS;
ALSO FOR
SHEETS, &c., AND
FERRO-ALUMINIUM.

ALUMINIUM.

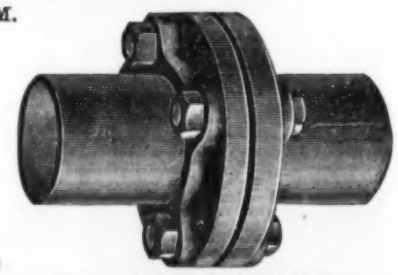
APPLY TO
HENRY R. MERTON & CO.,
2, Metal Exchange Buildings, Leadenhall Avenue,
LONDON, E.C.

A. & J. STEWART and CLYDESDALE, Limited.
Glasgow, Coatbridge, and Mossend.



SECTION OF PATENT FLANGED JOINT

WROUGHT IRON WELDED TUBES and FITTINGS for GAS, WATER, and STEAM.
Light Lap-welded Wrought-iron and Steel Tubes
(SPECIALLY ADAPTED FOR MINES).
With Patent Flanged Joints (as illustrated) for the Conveyance of Water, Steam, and Air, at High and Low Pressures.
LAP-WELDED IRON AND STEEL BOILER TUBES
FOR LOCOMOTIVE, MARINE, AND OTHER MULTITUBULAR BOILERS.
STEEL & IRON PLATES FOR BOILERS, BRIDGES, &c.



PLAN OF PATENT FLANGED JOINT.

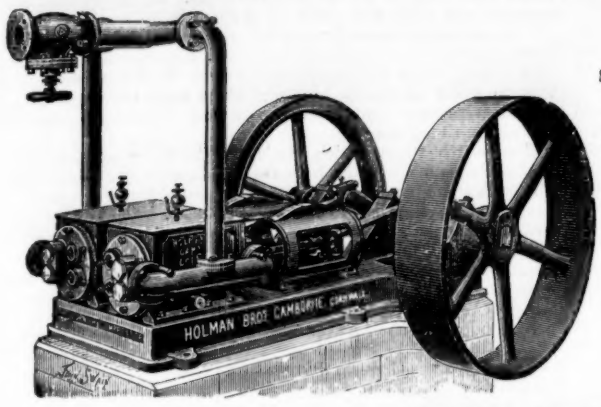
Head Offices: 41, OSWALD STREET, GLASGOW.

HOLMAN Bros., Camborne, Cornwall.

ESTABLISHED 1839

Patentees and Sole Makers of

"THE CORNISH" ROCK DRILL and "THE CORNISH" COMPRESSOR



FIRST SILVER MEDAL, Highest Award, Mining Institute Contest, 1881.

Three Makers represented.

FIRST SILVER MEDAL Highest Award, Royal Cornwall Polytechnic Jubilee Exhibition Contest, 1882.

Five Makers represented.

AWARDED SILVER MEDAL INTERNATIONAL INVENTIONS EXHIBITION, 1885.

RECORD OF WORK DONE

At Botallack Mine, St. Just, Cornwall, **TWELVE MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** drove, sunk, and rose **288 FATHOMS** in **12 MONTHS,** equal to five times the Speed of Hand Labour

At Wheal Grenville Mine, Camborne, Cornwall, **SIX MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** started from the **150 FATHOMS** level and put up in **EIGHT MONTHS a 11 FEET** by **5 FEET PERPENDICULAR RISE 46 FATHOMS 5 FEET 6 INCHES,** and about midway drove **1 FATHOM 5 FT.** No communication of any kind was effected until holing to the Shaft brought down from surface.

Estimates for ROCK BORING PLANT and GENERAL MINING MACHINERY on Application.

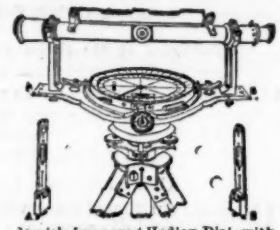
London Offices: 7 and 9, LEADENHALL BUILDINGS, E.C.

JOHN DAVIS AND SON,

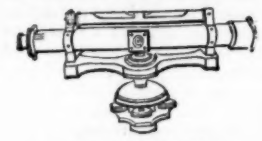
ALL SAINTS WORKS, DERBY;

118, NEWGATE STREET, LONDON.

Transit Theodolite with Patent Hoffman Tripod Head, and Trough Compass.



Davis's Improved Hedley Dial, with Telescope and Sights Interchangeable and Patent Hoffman Tripod Head.



Dumpy Level with Hoffman Patent Tripod Head.

MINING, SURVEYING AND ENGINEERING INSTRUMENTS

THEODOLITES. LEVELS.

Davis's Improved Hedley Miners' Dials with HOFFMAN PATENT TRIPOD HEAD.

AND ALL DESCRIPTIONS OF MATHEMATICAL AND MINING SURVEYING INSTRUMENTS.

Revised Illustrated Catalogues Free to any Part of the World.

SECTION (A) MATHEMATICAL DEPARTMENT AND SAFETY LAMPS
SECTION (B) ELECTRICAL DEPARTMENT.

Gold Medal Awarded Mining Exhibition, 1890.

"THE ENGINEERING TELEGRAPH CODE USED."

HENDERSON'S RAPID TRAVERSER

AWARDS: CRYSTAL PALACE, 1890; TASMANIA, 1891; KIMBERLEY, 1892.

CONCENTRATION.

The Clarkson-Stanfield Concentrator (Limited).

In the CLARKSON-STANFIELD process of Concentrating Refractory and Complex Ores no water is required; dust is reduced to a minimum; the loss of Mineral through water-borne Slimes is obviated.

OUTPUT ½ TO 2 TONS PER HOUR, ACCORDING TO SIZE OF MACHINE.

CONCENTRATOR TO BE SEEN IN OPERATION AT THE COMPANY'S ONLY ADDRESS:

6, COLONIAL AVENUE, MINORIES, LONDON, E.

The Machine is superior to Sieves for Sizing Homogeneous Substances, such as Emery, Sand, and Powders, and may be used to great advantage in the preparation of Ochre.

N.B.—The owners of the Carndochan Mine, near Bala, North Wales, will, by arrangement, show their CLARKSON-STANFIELD plant working on a Refractory Low Grade Gold Ore.

CONTRACTS OPEN:

FOR MINE, QUARRY, RAILWAY, AND ENGINEERING WORK, STORES, &c.

**** We shall be obliged by being promptly placed in possession of particulars regarding contracts open for competition, and of the results of successful tenders. In the latter case contract prices should be given.*

The date given is that by which tenders must be delivered, in nearly all cases further information can be obtained on application at the addresses given. In applying for such the name of "The Mining Journal" should be mentioned as the original source of the information, concerning which further particulars are required.

HOME CONTRACTS.

Driving Tunnel, May 6 (*Hyde*).—For driving tunnel from Two Feet Mine to Sluck Mine. Tunnel to be 8 feet high by 9 feet wide, with brick wall 9 inches thick built up centre; dip of tunnel, 1 in 8. To be worked at continuously, in three shifts. State prices for metal and rock. Tenders to be sent in by 6th inst. to the manager, Mr. A. Elce, Hyde Lane Colliery (Limited) Hyde.

Railway, May 6-13 (*Blantyre, Scotland*).—For constructing a branch railway from the new pits at Whistleberry Colliery, Blantyre, to a point on the Caledonian Railway near Strathaven Junction. Schedules of quantities and specification of work can be had by applying at Greenfield Colliery, Hamilton. An engineer will meet intending contractors at Whistleberry Colliery on 6th inst., at 12 noon, and exhibit plan. Tenders will be received up to 13th inst. by Mr. Arch. Russell, 68, Great Clyde Street, Glasgow.

Railway Stores, May 7-14 (*India Office, S.W.*).—The Secretary of State in Council is prepared to receive tenders to supply (1) steel bearing springs, (2) rolled-steel wood screws, (3) wrought-iron spikes for rails, (4) brake vans, &c., (5) workshop machines. The conditions of contract may be obtained on application to the Director-General of Stores, India Office, Whitehall, S.W.

Bridge Works, May 11 (*Aberaychan*).—For iron girders, masonry, &c., required for widening a bridge at Aberaychan, for the Aberaychan Urban District Council. Plans and specifications may be seen by appointment at the office of the Council, High-street, Abersychan, and tenders must be delivered to Mr. F. Cooke, surveyor, Council Offices, Aberyschan, by May 11, endorsed "Tender for Bridge."

Engines, May 14 (*West Ham, Essex*).—For supply of two beam pumping engines, each about 250 indicated horse power; two centrifugal pumps and engines, each about 350 i.h.p.; and four boilers, each 30 feet in length by 7 feet 6 inches in diameter. Also alterations to existing machinery. Plans and particulars may be obtained, after April 1, from the Borough Engineer, Town Hall, Stratford, E., on deposit of £5 (Bank of England note), returnable on receipt of *bona fide* tender.

Fuel, May 15 (*Liverpool*).—For the supply of coal to their steamers in Liverpool for one or two years from September 1, for the City of Dublin Steam Packet Company. Specifications and forms of contract can be seen on application to Captain Bell, R.N., 9, Regent Road, Liverpool.

SOUTH AFRICAN GENERAL DEVELOPMENT.—The directors announce that Mr. Jameson, brother of Dr. Jameson, Commissioner for Mashonaland, with the consent of the Oceana Development Company, has been appointed to act as agent for the South African General Development Syndicate in the Transvaal, and that gentleman has been requested to at once organise and equip prospecting parties, to investigate the valuable mineral resources of the land which the syndicate has acquired the right to select.

MR WALTER R. HORNCASTLE, of 61, Cheapside, was on Tuesday elected without opposition, a member of the Court of Common Council for the Ward of Cordwainer.

NEW PATENTS.

LIST of APPLICATIONS for New Patents relating to Mining Metallurgical, Engineering, Railway and kindred matters, specially compiled from official sources for the "Mining Journal" by Messrs Rayner and Company, Patent Agents, 37, Chancery Lane, London, W.C., who will forward all information regarding them free on application.

7575 James Johnson, 4, Clayton Square, Liverpool.—Improvements in the manufacture of alloys of iron or steel with nickel.—April 16.

7605 Frederick Gwilym Treharne, Wrangbrook, Llanishen, near Cardiff.—An appliance for preventing pitting and corrosion, and also for preventing too great an accumulation of scale in steam boilers.—April 16.

7606 Adolphus Wolski, 89, Chancery Lane, London.—An improved process for the utilisation of blast furnace gases.—April 16.

7639 George Yellott, 46, Lincoln's Inn Fields, London.—Combined hydraulic ram and pump.—April 16.

7658 Jacob Leopold Waldapfel, 115, Cannon Street, London.—An improved fire-bar.—April 16.

7662 Joseph Poulson and Charles Spurgeon Onderbrook, 45, Southampton Buildings, Chancery Lane, London.—Improvements in air valves.—April 16.

7663 Philip Herman Rosenkranz, Ernest August Dreyer, and Adolf Droop, 4, South Street, Finsbury, London.—Improvements in pressure gauges.—April 16.

7712 George Dexter Burton, 57, Chancery Lane, London.—Electric bath metal-heating apparatus for metals and ores.—April 17.

7817 William Phillips Thomson, 6, Lord Street, Liverpool.—An improved process of manufacturing alloys of refractory metals with more fusible metals.—April 19.

7857 Alfred Julius Boult, 323, High Holborn, London.—Improvements in or relating to furnaces.—April 19.

7867 William Firth, 32, Chancery Lane, London. Improvements in or connected with girder frameworks for use in mines and other places.—April 19.

7878 Archer Thomas Vernon and James Addison Hodgin, 40, Chancery Lane, London.—Improvements in water motors.—April 19.

7881 Camille Jenatzy, jun., 97, Newgate Street, London.—An improved steam motor.—April 19.

7902 Niels Christiansen and John Carstairs, 70, High Street, Southampton.—A new or improved marine engine governor.—April 20.

SPECIFICATIONS PUBLISHED.

6386, Harmen, steam boilers, 1894; 7533, Roots, oil engines, 1894; 10,249, Thoma, obtaining gold and silver from ores, &c., 1894; 10,809, Hutchinson, steam boilers, 1894; 12,602, Lake, testing sheet metal cans, 1894; 453, Young, boilers, 1895; 1946, Lake, boilers, 1895; 4106, Lones, dynamo-electric generators and motors, 1895.

The above specifications published may be had of Messrs. Rayner and Co., 37, Chancery Lane, London, at 10d. each including postage.

ACTIVITY IN CLAIM PEGGING IN THE KLERKSDORP DISTRICT.—"Claim pegging is still proceeding apace, and much ingenuity is being displayed in finding ground to peg," says the *Mining Record*. "The theoretical extension of the Gold Estate has been pegged off for miles, right into Nooitgedacht. Several hundred claims have been pegged off on the dip of the Eastleigh mynpacht, commencing from the 15th row of claims, or 6000 feet from the outcrop. Peggers are now scattering far and wide in their search after ground, and all reefs and lines of reefs have been pegged off. Several hundred claims on Eleazar were pegged this week also, on the line of our commonage reefs."

DRY CRUSHING AT COOLGARDIE.—A meeting of mining engineers and mine managers and others has been held at Coolgardie to consider the question of dry crushing. The speakers were careful to point out that no doubt plenty of water would eventually be at Coolgardie, but in the meantime what was wanted was to get on with the production of gold from the mines. It was decided to hold periodical meetings, when short papers on the subject would be read.

NEW GOLD FIND AT LAKE DARLOT, WESTERN AUSTRALIA.—"The Hon. D. W. Carnegie, who has been prospecting for the last three months for the Mercer Prospecting Syndicate," says the *West Australian Gold Fields Courier*, "returned last week bringing with him 135 lb. of stone from a new find at Lake Darlot. This stone has since been treated, and gave a net result of 49 ounces 1 dwt. 17 grains per ton. Lake Darlot is situated about 200 miles due north of Coolgardie, and is the centre of an entirely new district. The find is close to the lake, and Mr. Carnegie has taken up 24 acres on behalf of his syndicate."

TRANSVAAL GOLD.—With regard to the observations made by the Chairman at the general meeting of the shareholders held on January 24 last, relative to the leasing of the mining rights over that portion of the company's property known as Jubilee Hill, advices have been received by cable from the general manager, intimating that a company has been registered at Pretoria, with a capital of £85,000, of which this company is to receive £25,000 in cash and shares, 10,000 shares being held in reserve.

ST. GEORGE (Coolgardie).—Letters of allotment and regret have been posted to all who have applied for shares. Under instructions from H.M. Register House, the word "Coolgardie" has been added to the name of the company, originally called "The St. George Proprietary Gold Mines (Limited)," to avoid confusion with an American company of somewhat similar name.

PULIDO MINING COMPANY (LIMITED).—Mr. C. B. Dobson, of 72, West Cromwell-road, has joined the board.

DEEP SINKING ON THE KIMBERLEY GOLD FIELD, W.A.—The Government is offering a bonus for deep sinking.

TELLURIDE DISCOVERY IN WESTERN AUSTRALIA.—A discovery is reported of tellurides or telluride of bismuth, which is very rare, and invariably associated with gold, as in this instance.

NEW TAMARUGAL NITRATE COMPANY (LIMITED).—The register of transfers will be closed from 15th to 31st May, both days inclusive.

THE Westleigh Mines (Limited) has opened a transfer office at Winchester House, E.C., the London committee being Messrs. George H. Raw, E. P. Mathers, and T. S. Marshall, and the secretary Mr. George Thomson.

A HOUSE BUILT UPON THE SAND cannot have a permanent foundation; and the same may be said of every undertaking in life. Success, to have a permanent effect, must be built upon something solid, or it will crumble into ashes when seemingly within our grasp. The foundation of anything of value must be carefully laid or it will soon become useless. This remark is particular applicable in reference to our health, for if it is not firmly established through the blood being pure and the stomach in regular order, we are liable at any time to be fatally attacked by disease. Holloway's Pills and Ointment lay a foundation of good health which will be permanent and strong as a rock.

THE CYANIDE PROCESS.

ITS PRACTICAL APPLICATION AND ECONOMICAL RESULTS.

By A. SCHEIDEL, Ph.D., E.M.

(Published by the Californian State Mining Bureau.)

XI. Exemplification of the Process—The process in various countries.

(Continued from page 478.)

C. THE UNITED STATES OF AMERICA.

THE introduction of the cyanide process in the United States as a metallurgical process on a commercial basis has so far been slow. The territory is vast, the mining districts are widely scattered, and there is an almost invincible prejudice against any new process, particularly patent processes, owing to the innumerable failures in which for years past much money has been lost. Of late the process has been tested on many ores from almost all mining camps in the United States. It has been found successful, on a small scale, in many instances. Its technical application has, however, not always been the expected success, for which fact various causes are responsible. In many instances plants have been erected where either the ore is unsuited for the process, or where the supply of suitable ore is insufficient. In other instances the working of the process has been entrusted to incompetent hands, which naturally led to a failure. The MacArthur-Forrest patents and the Simpson patent are owned in the United States by the Gold and Silver Extraction Company of America (Limited), of Denver. A number of extraction works have been erected all over the United States by mining companies and other parties. To obtain reliable information of their results and their plants has proved possible only in a few instances, and it is hardly possible to form from such information an adequate idea about the success of the process in this country.

Utah.—The first mill to operate cyanide treatment in this territory is owned by the Mercur Gold Mining and Milling Company. That company had just completed a pan-amalgamation plant at a cost of $30,000, which proved a failure, only 20 per cent. of the gold being recovered, when small tests with cyanide, followed by good results, led to the introduction of the process on a large scale, which has since proved a full success. For the following description, by Louis Janin, jun., I am indebted to the *Engineering and Mining Journal* (October 7, 1893):—

"The ore passes through a Dodge rock-breaker, and is crushed by two sets of Wall's corrugated rolls; the first are set to ½ inch, the second to ¼ inch. This very coarse ore (over 20 per cent. of the product which goes to the leaching vats does not pass a ½ inch mesh) is treated by cyanide percolation. The dimensions of the vats are 12 feet 8 inches in diameter; depth to false bottom, 35 inches; giving a capacity of about 14 tons when the vats are filled to within 6 inches of the top. In consequence of the crudeness of the crushing, the time of leaching varies greatly; it occupies between 10 and 240 hours. It is claimed that the ore (which is a silicious surface-ore with the gold finely divided) is singularly constant in value and quality; the wide differences in the time of treatment are ascribed to the differences in mechanical condition. As a rule, the cyanide solution is left standing with the ore for 12 hours; it is then passed through continuously, until practically all gold is extracted; the time required varies from 36 to 48 hours. The percolation liquor passes through zinc boxes 40 feet long, and is returned to the stock solution tank, where its proper strength is made up again by addition of cyanide. After the ore in the tank has been leached sufficiently, the tank is allowed to drain. However, a considerable quantity of solution, about 400 lbs. to the ton, or, with the 0·25 per cent. solution used, about 1 lb. potassium cyanide to the ton of ore, remains in the vat. To dislodge this, wash water is used, either plain water or sometimes a weak solution resultant from washing. In the latter case, the weak solution is stored in separate tanks, and this arrangement allows washing with a minimum wastage of solution. The extraction of the Mercur ore has varied; at the beginning of operations it was considerably below 70 per cent., but as experience with the process increased the results became better. The average is now given as between 85 and 90 per cent. The cost of treatment during an early period of the work is given at $2·40 per ton, divided as follows:—Potassium cyanide (1·27 lbs. per ton), 66 cents; zinc (0·55 lb. per ton), 5 cents; labour (seven shifts per 24 hours, six day and one night), $1·12; supplies, repairs, fuel, and freight, 57 cents; total (not including office expenses, royalty and superintendence), $2·40. Since that period the expenses have been reduced, as the amount of cyanide lost per ton of ore has been diminished, and a larger quantity of ore is reduced with the same amount of labour. Comparative results by actual experience on the ore by amalgamation and cyanide treatment are as follows:—1500 tons of ore treated by amalgamation gave an average extraction of 20 per cent., at a cost of $4·25 per ton for milling; 1600 tons of ore, treated during 90 days by cyanide, averaged an extraction of 88·5 per cent., at a cost of $2·25 for milling." The introduction of the cyanide process has made the Mercur Company a remarkable financial success; it paid during the first five months of 1894, $150,000 in dividends. The plant has been increased to a capacity of 250 tons per day.

Montana.—One of the first cyanide mills in this State was erected by F. B. and R. B. Turner, in Revenue, Madison county, who supplied the information which follows:—The gold in the Revenue ores has always been very hard to save, the best amalgamation methods only saving from 25 to 27 per cent. of the assay value; the application of the cyanide process increases the returns to from 80 to 87 per cent. Extensive tests have proved that the wet crushing and cyanide treatment is profitable only on low grade ore, as the loss of low grade slimes connected with that method is considered immaterial. The most successful treatment with cyanide has been found to be percolation of dry-crushed ore. The present plant is used for wet crushing of low grade ore. The tailings from the battery pass into settling pits, and the slimes are allowed to flow into a large reservoir below the mill for eventual future treatment. The tailings settled in the pits are shovelled into the leaching tanks; the running of the pulp direct into the percolation vats proved here, like in many other localities, a failure, owing to the slimes. A dry crushing plant of 25 tons per day is now in course of construction. After its completion, ores of about $25 value will be crushed in the dry, poorer ores in the wet mill. The Revenue ore is nearly pure silica, containing from 1 to 2 per cent. of iron peroxide and no sulphurets. It is crushed and passed through a 30 mesh steel screen. Some of the percolation vats are of 10 feet diameter by a depth of 4½ feet, others are of 12 feet diameter by 4 feet deep; they are made of 3 inch Oregon pine. The strength of the solution varies from 0·6 to 1 per cent.; percolation takes from 24 to 36 hours, after which the solution which is circulated or pumped back varies from 0·4 to 0·8 per cent. of cyanide. One ½ ton of solution, on an average, is issued for treating 1 ton of ore. The total extraction amounts to from 80 to 87 per cent. of the assay value of the ore, 27 per cent. of which is obtained from amalgamation on the plates. Cyanide extracts from 73 to 79 per cent. of the value left in the tailings after amalgamation. No difficulty is being experienced in precipitating the gold. The consumption of zinc amounts to about ½ lb. per ton of ore. Sulphuric acid is used for bullion refining; the fineness of melted bullion is from 920 to 940. The total cost of treatment amounts to $5 per ton, including $1 patent royalty, and consists of the following items:—Crushing and labour, $2; chemicals, $2; patent royalty, $1. The actual consumption of cyanide is from 2½ to 3 lbs. per ton of ore. The total cost of the plant amounted to about $20,000, including engines, boilers, stamps, and vats, all placed in position. Eight to ten men are employed in the mill.

A cyanide mill erected by the Henderson Mountain Mining and Milling Company, near Cooke, Park county, was worked on surface hematite ore for some time with fairly satisfactory results.

Colorado.—The owners of the MacArthur-Forrest patents possess a small plant for testing ore parcels in South Denver.

The Cripple Creek Gold Extraction and Power Company erected a plant in Cripple Creek, in reference to which I received the following communication from the technical manager (Mr. J. K. Turner):—

"A small plant has been a remarkable success, and an addition to it is now in course of erection, bringing its capacity up to 50 tons daily. The machinery will finally consist of three Gates crushers; two pulverisers, four screens, four iron leaching vats of 20 feet diameter, two solution tanks of 15 feet diameter, and four zinc boxes of 40 feet length. The plant is running as a custom mill, and many classes of ore are being treated; at present about 30 tons per day. The ore is crushed dry, and passed through a 20-mesh screen. The cyanide solution used is 0·75 per cent., the strength of which is by percolation reduced to 0·5 per cent. One-half ton of solution is required for the treatment of 1 ton of ore. The extraction of gold averages 90 per cent.; that of silver 84 per cent. Sulphuric acid is used for bullion refining; the bullion is from 775 to 790 fine. Copper and zinc compounds in some ores have been found to interfere with extraction. The average value of the ore is $30 before and $3 after cyanide treatment. The cost of treatment amounts to $4·70 per ton. The cost of the plant was $20,000. Seven men are employed in the works."

The successful cyanide treatment of Cripple Creek ores, as here described, is very interesting, for the ores in that district contain a large amount of telluride minerals. Many ores contain sylvanite, krennerite, and calaverite.

The Puzzler Gold Mining and Milling Company, of Denver, have ceased to work their cyanide plant at Ward, Boulder county, although they were successful with the process.

A cyanide plant at Junction Creek is reported in successful operation. *(M. S. P.)*

(To be continued.)

THE ROAD TO COOLGARDIE.

By BRENTON SYMONS, M.I.C.E.

IT is far easier to reach Coolgardie now than it was a year ago; at that time every sort of supplies for the gold field had to be carted from Northam, a town 120 miles west of Southern Cross. These were halcyon days for freighters, during which they could fix their own terms, and when £50 per ton was considered none too high by the teamster. The opening of the railway last autumn to the Cross was an immense relief to prospectors, as it reduced the teaming distance to 116 miles, and the price per ton to £20, or at most £30. The railway freight to Southern Cross is £2 per ton, and considering the risk run by the Government in building a line solely to facilitate communications with the gold fields through a country utterly useless for agriculture, this must be deemed a moderate charge, and this fact militates still more strongly with regard to its extension to Coolgardie, for if the gold fields should not be found of a permanent character, the whole of the capital expended would be irremediably lost.

The Cross is bustling with teamsters engaged in loading their large wagons (built to carry 5 tons) with every description of provisions and machinery for the eastern mines. On the road to Coolgardie 195 empty wagons were met during the two days travelling, and each team usually consists of five horses. There are said to be engaged in the transport service 700 men and over 2000 horses, besides many hundreds of camels (conducted by Afghans), which can be loaded up to 800 lbs. The horses are mostly splendid animals, and are generally kept in first-class condition, notwithstanding that fodder, oats, &c., cost 5d. per pound. The heavy charge made for coaching is beyond the means of the majority of the miners and workmen seeking employment in the gold fields, and consequently the numerous teams starting daily for the mines are utilised by these impecunious travellers or "swampers" to relieve them of their "swags," whilst they tramp along in the choking dust under a pitiless sun, giving a shade temperature of more than 100°. None but those who have made this journey on foot can realise the sufferings endured by these poor wayfarers, or estimate the vigorous language employed to ease their feelings. If ever the dweller on the gold fields or along the roads should disappear owing to the collapse of the mining industry, the evidences of a past civilisation will remain for years scattered through the forest in the shape of tin cans, whisky bottles, and packing cases.

Cobb and Co. run daily coaches each way between the Cross and Coolgardie, charging £5 for the trip of two days; there are also opposition coaches that make it in three days for £3 10s. These coaches can seat from six to nine inside, according to the number of passengers who are desirous of going, while on the outside as many cling on to the top as can find holding space. The coaches are slung on strong leather springs, and are drawn by five horses running from 8 to 13 miles a stage. They carry the daily mail starting from the Post Office at 8 a.m. The coach toils through the shanties and numerous condensers around the town, and jolts along the road cut by the Government, over sandy plains and under groups of eucalyptus, arriving at the end of two stages at Reen's Soak, when tea and drinks may be absorbed. These so-called soaks are always situated at the base of granite hills, from which they derive the water generally found in them. There is here a large reservoir constructed by the Government to collect the water from a shower. There are many of these along the road where water is difficult to obtain, and this enables the teamsters to make the transport under easier conditions, and with much less danger of losing their horses. As all the water under the plains is salt, these dams or reservoirs are placed in the immediate vicinity of a more or less extensive outcrop of granite, and, in order to secure the whole rainfall, a low hedge and shallow ditch is built all around the base so that the water is collected and made to flow into the reservoirs; thus a single thunderstorm may suffice to pool water to last for many weeks. Unfortunately, the usefulness of these dams is very much impaired by the excessive evaporation, and a large proportion of the stored water must be necessarily dissipated, amounting, it is said, to 10 or 12 inches per month.

The third stage is over the same scorching sand-plains, with patches of desiccated tea-bush stretching away to the distant belts of scattered eucalyptus, and is reached after mid-day just after a 30 miles' drive, the passengers alighting to refresh themselves, after a 4 hours' exposure to heat, dust, and flies. Fortunately, a good lunch is obtainable here for the moderate outlay of 2s. 6d. Here, also, is a Government dam, and a well sunk to a depth of 120 feet, which affords water only slightly brackish. A granitic fold outcrops here, and is followed by a small basin of hornblendic schist in which quartz reefs are seen. Between this and the last halting-place is the long lake of Yelladine, white with salt and glistening ardently in the sun. Numerous condensers are at work here to supply water along the route. Although eucalypti grow on any eminence away from the salt bottoms and sandy plains, and more especially where hornblendic rocks prevail, yet they appear to be insufficiently provided with moisture, as when they become large, they commence to lose their heartwood, and thus to grow gradually hollow; but it must not be imagined from this remark that there is not an abundance of available timber for all purposes.

The fourth stage, which lands the traveller at Carawalgy (Hobson's), is made over a bare sand-plain with sparse tea-bush. Although there is a large dam here, we found the place short of water, and whiskies had to be swallowed neat. The Government authorities make a small charge for stored water. Thus 2s. 6d. is charged per 100 gallons to the teamster who replenishes his tank—without which indispensable adjunct no team travels; each horse costs 2d. and each camel 4d. to water, whilst pigs and sheep are permitted to slake their thirst at 4d. a score. Travellers are privileged to fill their water bags gratis. Leaving Carawalgy a sand plain has to be crossed over a very heavy road. At the end of this stage is a Government well 125 feet deep, sunk through a granitic rock, which, through decomposition, has lost most of its mica, and has become partially kaolinised. The water is said to contain magnesian chloride, and though sweetish, horses and cattle will drink it. The last stage during the first day is made over the same sandy country on which the tea-bush grows. At 9 p.m. Boorabbin is reached, where a fairly good hotel is found, and also a telegraph office. Here a good table awaits the dust-covered traveller, wearied by 15 hours' of jolting, and oppressed by the amount of fine dust inhaled; and, after satisfying the demands of hunger, he forgets his exhaustion in a good bed. For dinner, bed, and breakfast only 9s. is demanded. There is an extended range of bare granite hills behind the hotel, and the rainfall is carefully collected in the reservoir below, so that this half-way station is seldom destitute of water. And here, also, the forest again puts in an appearance, and the surroundings become rather picturesque after the fearful monotony of the arid plains. From this place the road improves, and in place of the heavy white sand, a red hard soil—due to the weathering of the granite—allows the lumbering coach to bowl merrily along.

Leaving at six in the morning in the pleasant coolness of dawn the first stage is rather enjoyable, especially as the country is somewhat accidented. At the end of the second stage a small but moderately good hotel, pleasantly situated under a granite range and surrounded by forest, is reached at half-past ten. At this place which is called Woolange, there is a reservoir, and, as cows are kept, a fresh draught of milk can be enjoyed, and a good meal for 3s. At the next stage—known as the 88 mile—there is a condensing station, situated on a sandy desert covered with tea-bush. After rains this withered bush sprouts out in bright green shoots, which gives a little relief to the dismal prospect. Those soils best able to retain moisture are easily distinguished by the difference in forest growth, and on the plains by the brighter verdure of the bush. The forests are very quiet, and scarcely any animal life is visible, though sometimes a few parrots fly noisily about the treetops, and rarely the bell-bird is heard. On the sand plains a dingo may occasionally be seen loping through the bush, whilst a magpie or two may be noticed overhead.

Soon after leaving the 88-mile, the Devil's Pinch is encountered—so named from the difficulty which the teams experience in getting along the hilly and sandy track. The fine sand is most suffocating both for men and horses, the eyes often becoming closed with dust. More cursing is required to get the teams over these three or four miles than has been been expended in the whole journey before. It is indeed a road of sand, sin, and sorrow. At the 18-mile is an excellent hotel, by far the best on the road. Having passed the fold of granite, the auriferous hornblendic rocks again prevail, and numerous reefs, judging from the quartz "blows," must exist. Very little has yet been done here by prospectors; but it is well worthy of attention, though it is but a narrow basin, as another wave of granite rises between here and Coolgardie. Here really commences the forest and characteristic red soil of the gold fields, a forest extending east, north, and south for many hundreds of miles. There is another stage at the 9-mile, but there is only stabling and some condensing machinery. The last stage to Coolgardie is made quickly, the team being the best on the road with a hard track; and at last, after 120 miles of such dust and jolting as can only be equalled by a Mexican diligence, the coach arrived at Coolgardie just at dusk. No part of the journey was so satisfactory as the ending of it.

AFRIKANDER GOLD MINING COMPANY.—An extraordinary general meeting of the shareholders of this company was held on Tuesday, at Winchester House, in order to consider a proposal for acquiring 153 adjoining claims now held by the African Gold Recovery Company, which that company offer to sell for 70,000 fully-paid shares of £1 each in the Afrikander Company.—Mr. M. S. Cooke, who presided, explained that, having regard to the fact that the acquisition of adjoining claims to their present property would greatly prolong the life of their mine, and to the economies that could be effected by working the property on a large scale, the directors were convinced that it would be greatly to the advantage of the shareholders to accept the offer made, and had accordingly entered into a provisional agreement with the African Gold Recovery Company to acquire the claims on the terms mentioned. The acceptance of the offer involved an addition to the capital of the company, which it was proposed to increase to £200,000 by the creation of £150,000 additional shares of £1 each. Of these 70,000 fully-paid shares would be allotted to the African Gold Recovery Company for its 153 claims, 60,000 shares would be offered for subscription to provide working capital, and the balance of 20,000 would be held in reserve. The directors had stipulated that of the 60,000 shares to be issued, 50,000 should be offered at par to the shareholders of the company *pro rata* in proportion to their holdings. The African Gold Recovery Company undertook to find subscriptions for the balance of 10,000 shares, as well as for any part of the 50,000 not taken up by the shareholders of that company, and on its side stipulated for the right during twelve months from the date of the agreement being sanctioned to call for an allotment at 30s. per share of the whole or any part of the 20,000 shares held in reserve. The Chairman, in conclusion, warmly commended the scheme to the shareholders present, and formally proposed a resolution for its acceptance, which was seconded by Mr. F. C. Bell, and unanimously carried.

THE LONDONDERRY'S LEASE.—The Western Australian Government has refused the petition of right of the Londonderry Company, which was based on the inaccurate survey of the lease, and which gave the company only 16 acres instead of 25 acres. It is intended to lay the whole matter before Parliament next Session, and a full statement of the case will be published in the London Press, and submitted to leading counsel in England.

RECENT IMPROVEMENTS IN AMERICAN METALLURGY.

MR. DOUGLAS delivered on Monday last the second of his Cantor Lectures on "Recent Improvements in American Metallurgy."

He commenced by stating that no metallurgical operation as performed by hand is more tedious than the calcination of ores, and none, comparing the bulk of material handled with the amount of energy expended, is more wasteful of labour. As calcination enters, with but few exceptions, as a step in every metallurgical process, and as the improvements—looking to economy of labour—are in the line of mechanics rather than of chemistry, a larger number of inventors have exercised their talents in devising appliances for its performance than if chemical knowledge were required.

Three types of mechanical furnaces are in use in America, among which the choice is determined, in a measure, by the service required—first, the rake furnace; second, the shaft furnace with a long drop; and, third, the cylinder furnace. Of the rake furnaces, the oldest is not an American invention, having been patented in England by Peter Spence for the burning of pyrites fines. As originally devised, it was a four-hearth furnace, the upper hearth discharging on the lower through slots in the arches at alternate ends. The ore was moved forward by rows of ploughs, attached to a long frame, which issued from the furnace during each forward and backward journey, thus securing a sufficient cooling period for the frame, while the plough cools in an accumulation of ore at the extreme end of the floors, here protected from draught and active combustion.

The Spence furnace, as now built, retains substantially the old design, but has been improved in every mechanical structural detail, so as to be as durable as such a piece of mechanism exposed to heat could be made. It is, however, used exclusively in the East for the purpose for which it was originally designed —viz., burning fine pyrites for the manufacture of acid. The rake furnaces most widely used are modifications of a furnace introduced 25 years ago by O'Harra, but which in its primitive form received scant adoption on account of defective design, and consequent uncertainty of operation. In the original furnace the ploughs were secured with a triangular cross-bar attached to an endless chain. The chain dragging through the groove in the centre of the hearth, and the ploughs scraping on the bottom, caused such excessive wear of both the hearth and the mechanism, that the furnace was a practical failure. It has, however, undergone modification after modification, till transformed into the present Brown-Allen improved O'Harra.

Those in Butte are constructed with two hearths, 100 feet long, 9 feet wide, with four fireplaces—two on each side of the upper hearth. They roast from 45 to 50 tons per day of concentrates, reducing the sulphur for furnace work to 6 per cent. Where thus employed in roasting, preparatory to smelting, the floor of the lower hearth, may terminate in hoppers, where the ore accumulates hot, and drops into reverberatories. The most radical defects of the original O'Harra furnace have been remedied by dividing the hearth into three compartments. The central compartment constitutes the roasting area; the side compartments, into which no ore can enter, are provided with rails, on which carriages are drawn by an endless chain. To these carriages are fastened arms, which enter through a slot in the partition to the centre of the furnace; and to the arms are attached the ploughs, which agitate and propel the ore. The rails extend beyond the furnace to allow of the cooling of the carriages, chains, and rakes as they travel towards the pulleys by which motion is communicated to them, and over which they are carried from hearth to hearth. The power required to move the rake is about 4 horse-power. The fuel consumed is about four cords of wood, and three men per shift work two furnaces.

Mr. Richard Pearce, of Argo, an English metallurgist to whom the Boston and Colorado Smelting Company is not a little indebted for their great success, claims that he reduces wear and tear and power consumption in his Turret Furnace. In the Pearce furnace the machinery moving the arms and ploughs is placed within a cool open space left within the circular hearth. The arms are of hollow tubes, through which air is forced and thrown upon the surface of the ore at a certain stage of the roasting, thus cooling the arms and ploughs, and accelerating oxidation. Two fire-places supply extraneous heat. The whole space below the hearth is used as a dust chamber. Furnaces of this type are now being built with hearth above hearth, to prolong the roasting where complete oxidation is required. Mr. Pearce claims that he can roast virtually dead Gilpin County tailings at a cost of $1·15 per ton, whereas, his ordinary mixtures—containing pyrites with from 20 to 30 per cent. of silica—may be roasted to 4·75 per cent. of sulphur at the rate of 16 tons per day, at a cost of 70 cents per ton. Even ores and mattes carrying a considerable percentage of lead can be roasted. Where these furnaces are in use in Butte, it is claimed that they roast down to 6 per cent. of sulphur at the rate of 15 tons per day, and at a cost of 65 cents per ton.

Still another furnace has been a recent outgrowth of the O'Harra, the Brown Horseshoe furnace. It is also circular in form. The hearth is 150 feet long following its medial line, and 8 feet wide. The arms carrying the rakes, as in the Pearce turret furnace, enter the slot in the inner wall of the furnace. These arms, and the rakes attached, are moved by an endless rope, and can be attached and detached by a clutch in the manner of the mechanism of the cable-car system. When a rake issues from the final heel of the horseshoe, it is automatically dropped, and the preceding rake, which has had time to cool, is picked up by the cable and carried forward into the opening of the hearth or the other heel of the horseshoe. The furnace is working admirably on zinc ores, and is giving satisfaction at the Kansas City Smelting and Refining Company's Works, where it is roasting copper-lead mattes for leaching.

At the Parrot Works in Butte, Mr. H. A. Keller has designed a modification of the Spence furnace, with which he claims he can do even cheaper roasting than his rivals. He has two furnaces—one of which he calls his segmental furnace, the other rectangular. By the first, his records show a capacity of 30 tons per day, roasting at a cost of $17·42, or 58 cents per day. In his rectangular furnace he claims that he can obtain even better results. The segmental furnace is a four-hearth circular calciner, with drying floor on the roof of the topmost hearth. Each circular hearth can be divided into two or more separate furnaces by brick piers rising from the foundations to the roof of the topmost hearth, each pier not only giving support to the structure, but affording passage to a hot or cold air supply for the hearths. The rake arms are tubes screwed to a vertical tube, through which air is forced so as to issue through openings in the rakes. The whole is given by suitable mechanism a slightly oscillating motion. By other mechanical devices the rakes are made to travel the full length of each of the segmental furnaces, into which the circle is divided. The rakes then rotate a quarter-turn so as to liberate and raise them from the ore, and are returned by reversal of the hollow frame to the receiving end of the hearth.

Mr. Keller has designed a duplex rectangular 4-hearth furnace, built on the same general principle as his segmental furnace above described, the open space between the parallel rectangular furnaces holding the machinery. Another modification of the duplex rectangular furnace has been invented by a Mr. Wethey, of the W. A. Clarke Reduction Works, Butte, in which the rakes travel in one direction, and are moved by chains as in the different varieties of the O'Harra furnace. With ores not liable to sinter, all such furnaces can, of course, be worked with much less strain on the machinery, and, therefore, comparatively less wear and tear than when treating such a substance as lead matte, which is liable to stick to the hearth, and either injure the ploughs, or tear up the brickwork during its removal. There is, therefore, an absence of concurrence of opinion on the part of those who use these mechanical furnaces, due in part to the class of material treated, and in part to the greater or less skill with which the furnace is handled; but there can be only one opinion as to their utility and economy when applied to suitable ore.

Of the old Brunton type of revolving heath furnace two only seem to be in use—one at the Haile Gold Mine, in North Carolina, another with very radical modifications, designed by Professor W. P. Blake — the shaft furnace. The only shaft furnace, which has maintained a position of prominence, is that invented by Mr. C. A. Stetefeldt. Mr. Stetefeldt's first furnace, in 1864, was built with terraces after the general design of the Gerstenhoffer, but subsequently he omitted the terraces, and increased the height of his stack. As now constructed, the furnace consists of a vertical shaft, 45 feet high, tapering from 6 feet by 6 feet at and below the fireplace, to 4 feet 6 inches by 4 feet 6 inches at the top, with an effective drop of 37 feet, and a total drop of 48 feet. An incline return flue, which has a reverse taper, carries the dust escaping from the main shaft into a horizontal flue, provided with hoppers, and thence into dust chambers. Two fireplaces near the base of the main stack, and a third at the bottom of the return flue have, in the more recently-erected furnaces, been replaced by combustion chambers, where gas from Taylor's producers is burnt. Full details of construction were given last year by Mr Stetefeldt, in a paper read before the Federated Institution of Mining Engineers at Newcastle.

The capacity of the furnace as a chloridiser depends, of course, on the constitution of the ore and ranges from 70 tons to 100 tons per day. It is nowhere used except to chloridise finely ground ore mixed with salt, though Mr. Stetefeldt claims that it may be used as an oxidising furnace on certain kinds of ore. If the ore be very base or be highly sulphuretted, the reaction is merely started during the rapid fall of the particles through the shaft. The chlorination proceeds on the cooling floor, if the ore be left in heaps, as long as the heaps retain sufficient heat to maintain reaction. Mr. Stetefeldt gives some very interesting data on this subject. A sample of Lexington ore showed an increase of chlorination of the silver contents from 47·7 per cent. to 90·8 per cent. during 12 hours of cooling, and showed peroxidation of the iron, as evinced by a decrease in magnetic oxide, from 17·5 per cent. to 2·3 per cent. and a corresponding increase in peroxide. Whether or not the furnace could be used as an efficient oxidiser of coarsely-crushed ore, Mr. Douglas thinks that it should be tried as a chloridiser of burnt pyrites. A very short exposure of the ore to the heat, it is claimed, reduces notably the loss of the precious metals, and renders the silver more soluble when leaching is subsequently resorted to.

Thirdly, there are the revolving cylinder furnaces. Of this class of mechanical calciners two designs have been largely used —the Brückner, with intermittent feed and discharge, and the White-Howell, with continuous feed and discharge. Brückner's patent was issued in 1866, and described a horizontal cylinder furnace, suspended by chains from revolving sprocket wheels. The ore was moved backward and forward by spiral shelves built into the lining. This specification gives interesting comparisons of the cost of chloridising by hand or by his furnace at that comparatively distant date. He gives the cost of chloridising in reverberatory furnaces at $21·80, and of chloridising in his furnace at $11·20 per ton. To-day the Brückner cylinder, as used in the smelting works of the Anaconda, and Boston and Montana Works in Montana, is a cylinder 18 feet long by 8 feet 6 inches in diameter, tapering slightly to the ends, one of which admits through an opening the heat from a fixed or movable fireplace. The opening at the other end permits the escape of the gases to the chimney. The cylinder is provided with four openings, closed by drop doors, is lined with brick, none of which protrudes as lifters, and is encircled by friction rings which rest upon four carrying rollers.

The weight of the furnace lined and charged is about 30 tons. The speed varies with the ore under treatment. In roasting Butte concentrates, the furnace makes generally one revolution in about three minutes, whereas at the Germania Works, in Utah, they roast successfully lead ores by giving it as slow a motion as one revolution in forty minutes. In operating the furnaces in the Butte Smelting Works a charge of from 9 to 12 tons of ore—generally concentrates—is dropped from hoppers previously filled through two of the doors into the hot furnace with fireplace attached. The cylinder is revolved, and a brisk fire is maintained until the ore is thoroughly ignited. The fire-box is then removed, and not replaced until towards the close of the operation, when the roast is re-exposed just before drawing to a brisk heat. The time required to reduce the sulphur contents to 7 per cent., which gives a matte in the reverberatories of between 50 per cent. to 60 per cent., is about 24 hours, though it sometimes reaches 30 hours. The power expended is said to be from four to five horse-power, and one ton of coal is consumed per twenty-four hours. The full charge is conveyed, whilst still hot, to the reverberatories, whose capacity is thus notably increased, rising to from 50 to 60 tons of charge per time.

Herein lies the most notable advantage of the Brückner over the furnace of the O'Harra type, whose charge of roasting ore is pushed off the roasting hearth by the travelling ploughs so slowly that even if received in hoppers it loses temperature to a wasteful extent before sufficient is accumulated to make a smelting charge. On the other hand the ore revolves slowly on the bottom and the ascending side of the cylinder, and is protected by the dense sulphur gases and vapour of sulphur, while the current of air passes from opening to opening, and, therefore, comes but imperfectly into contact with the roasting mass. Hence the very long time required to effect oxidation. To accelerate oxidation jets of air are in some furnaces forced upon the surface of the burning ore through a water-jacketted perforated pipe, known as the Clarke oxidising and desulphurising apparatus.

The operating cost of calcining in both the O'Harra and Brückner types of furnace, if confined to the items of fuel and labour, would be very light and easily calculated. The ambiguous cost is that of repairs and replacement, which is heavy, especially if the furnace house be dusty, or care be not taken to protect the wearing parts from sand. The Brückner has displaced hand-furnaces in the works of both the Anaconda and Boston and Montana Companies. The new smelting works of the Anaconda Company is equipped with no fewer than 103 Brückner cylinders.

The only other cylinder furnace which has received wide adoption is the White-Howell, and it has been used more for chloridising than for merely oxidising. The old White furnace is to all intents and purposes the Oxland cylinder lined with firebrick, four rows of which on end form as many lines of lifters. The White-Howell differs from the White in that the section nearest the fireplace is alone lined with firebrick, and exceeds in diameter the rest of the furnace. The iron of the other sections is exposed, and spiral shelves are cast on their inner surface. In the erection of the White-Howell, Mr. Howell, who is now connected with the Broken Hill property, combined with his cylinder some of the excellent features and advantages of a shaft furnace by lifting it above the fireplace, and showering the ore as it escapes from the cylinder into the flue, through which ascends the flame of the fireplace. A comparison can be made between the Stetefeldt, the Howell and the Brückner, only as chlorodising furnaces. This was done by Ellsworth Daggett, who arrives at the conclusion that the Stetefeldt has the largest capacity, is operated with less power, is exposed to less wear and tear, and performs better work. The range, however, of the adaptability of the Stetefeldt is more limited than that of the other furnaces.

I have used a cylinder furnace of my own designing, with a central flue supported on a series of perforated tiles, which act as partitions between the sections of the furnace. The object of the central flue is to protect the ore roasting in the annular space between it and the periphery of the cylinder from the action of the gases from the fireplace. I have found, however, that the large amount of brickwork that is contained in the cylinder, so stores and equalises the heat as to make the furnace a very efficient self-burner when the sulphur in the ore exceeds 27 per cent. The range of its utility, however, is limited to non-sintering ores, as ores liable to fuse readily soon clog up the comparatively constricted space of the apartments. It will, however, readily roast a copper and iron pyrites—provided the copper contents be not too high—without the aid of fuel, to from 4 to 8 per cent. of sulphur, at the rate of from 10 to 15 tons per day. It is a most efficient burner for pyrites fines, but is open to the objection which attaches to all cylinder furnaces with lifters—that it makes a great deal more dust than a rake furnace, and, therefore, requires the interposition of a dust-chamber between the furnace and the Glover tower.

Mr. Douglas then described the modifications which have been made in the Plattner process of extracting gold by chlorination. This process was first applied in 1858 for the treatment of the sulphurets of Grass Valley, California, where, as well as in Amador county, Calaveras county, and other parts of California, it continues to be practised substantially on the lines laid down by Plattner himself, the oxidation of the ore being effected in hand-furnaces, and the chlorine gas generated in a separate apparatus, and allowed to saturate the moistened mass of sulphurets from below upwards.

The lecturer described Mears's modification, proposed in 1877, by which chlorination was accelerated by forcing the chlorine gas through hollow trunnions into a revolving barrel, and Mr. A. Thies's further modification of the Mears's process, when he carried into practice one of Mr. Mears's suggestions of mixing the chlorine-generating ingredients with the ore charge itself in the barrel. Mr. Thies has been for years carrying out this modification of the Plattner process at the Hail Mine, North Carolina, with eminently economical results, obtaining a very thorough extraction of the gold, at a cost given for 1893 of $3·2, and in 1894 of $3·43, these figures covering the administration and wear and tear. The difficulty, however, of filtering the liquor from the oxide slimes in Dakota, where the gangue is more or less clayey, has led to the use there of barrels provided with an asbestos filter, on which, when the barrel is stopped, the oxide slimes rest, and through which the chloride of gold liquors are forced by a pump under a pressure of 40 lbs. These lead-lined barrels are made of such a capacity that 5 tons can be treated each charge, and five charges put through in 24 hours.

The cost of chlorination in Dakota, where wages and fuel are expensive, does not exceed $5. The substitution of bromine for chlorine does not seem to be making headway. Substantially the same plan as used for barrel chlorination in Dakota, it is intended to apply to the cyanide method, which up to the present has not received much currency in the United States.

Mr. Douglas closed his lecture by describing the only important modification which has been made in the Patera-Kiss process of lixiviation by hypo-sulphide of soda—viz., that which was introduced some years ago by Mr. E. H. Russell, and which has been brought by him and his assistants to such perfection in all its details that on all ores suitable for lixiviation it is applied with vastly better results than the old hypo method, and through its applicability to ores carrying even a large percentage of lead, has extended the range within which bleaching can be properly applied.

MINING NOTES FROM JOHANNESBURG.

By H. BUSH, M.E.

(*Cabled Weekly*).

Balmoral.

The Main Reef struck in the crosscut 4 inches to 6 inches in width, the assays just completed are as follows:—Three assays 23 dwts. average, ten assays 29 dwts. average. This includes footwall, which, by itself, is only worth 5 to 6 dwts. Whether these exceptionally rich assays will continue, development will show, but it is highly satisfactory for a new mine, giving great promise.

Kleinfontein Mine.

The Chimes Reef has been found in Kleinfontein Mine about 1000 yards from the southern boundary, and gives promise of turning out payable. This mine is opening out rich.

Knight's Tribute.

Main Reef 5 feet, assays 20 dwts.

New Kleinfonteins, Knight's, May Consolidated, Princess, and Steyn Estates

are among the leading properties that are improving daily.

The Rand Klipfontein.

A company has been formed to acquire, prospect, and develop the farm Klipfontein (Woodhouse's portion), adjoining Modderfontein, on the line of reef. The company has been named as above, having a capitalisation of £65,000, 40,000 shares going to the vendors for the property. The directors are Messrs. Lionel Phillips, Captain Rhodes, George Farrar, C. S. Goldman, and W. D. Dalrymple, the Anglo-French Exploration Company (Limited) being the secretaries. A reef 5 feet wide was struck in the borehole, giving good prospects, and it is expected that this is the Modder reef. This property has a fair chance of becoming a big mine. Development will be started at once.

Direct Treatment.

The most important discovery that has ever been made in connection with gold mining has just been proved a success on the Rand during the past few weeks. It has been found that as the pebbles in the banket carry but little gold millings, concentration is unnecessary, and the ore is now being taken direct from the mine into the cyanide vats, with the result of a 75 per cent. extraction, at a cost of 12s. 6d. per ton; so here we have 4 dwts. to pay. There are plenty of ores in the Trans-

vaa that will return from this process 5 to 6 dwts., so anybody can, by erecting a £500 plant, easily make 6 dwts. ore return a profit of £150 per month. This process will only work satisfactorily in the free milling friable ores, of which there are plenty in the Transvaal.

ALLOYS.

THIRD REPORT TO THE ALLOYS RESEARCH COMMITTEE.*

By Professor W. C. ROBERTS-AUSTEN, C.B., F.R.S.

MOLECULAR POROSITY.—In presenting this third report to the Alloys Research Committee I would remind the members of the Institution that, as so much interest was taken in the work of Professor E. Warburg and the late Herr F. Tegetmeier on molecular porosity, I was requested to repeat their observations on the electrolysis of glass.† Their original experiments were those described in the last report, and it is well for the sake of clearness to give a brief abstract of them here. A receptacle was divided by a sheet of glass, which could be several millimetres thick. Sodium amalgam was placed on one side and pure mercury on the other; the whole was then heated to a temperature of 200° C. or 400° F., at which the glass becomes slightly conducting. By the aid of a Planté battery, the sodium atoms of the sodium silicate present were set in motion; and after the experiment had continued 30 hours, it was found that a considerable quantity of sodium, amounting to 0·05 gramme or 0·77 grain, had passed into the mercury, which was originally pure. A corresponding amount of sodium had been lost by the amalgam; and the glass had exactly preserved its original weight and clearness. The glass was partly composed of neutral molecules of sodium silicate, together with free molecules both of sodium and of silica; and the free sodium was capable of being transported under the influence of the electric current. When, however, the sodium amalgam was replaced by lithium amalgam, the sodium of the glass passed as before into the originally pure mercury, and the glass became opaque on the side touching the lithium amalgam. After a time the opacity extended right through the thickness of the glass, and then metallic lithium began to accumulate in the previously pure mercury. It is not possible thus to chase out all the sodium present in the glass, but the free sodium atoms are replaced by those of lithium. The glass in which lithium has replaced part of the sodium is very tender, short, opaque, and friable. The conclusion is that the atoms of lithium, having an atomic weight of 7 and an atomic volume of 15·98, can pass along the tracks or molecular galleries left in the glass by the sodium atoms, the atomic weight and volume of which are 23 and 16·04 respectively. When a metal of superior atomic weight and volume to sodium is substituted for the lithium—such as potassium, with atomic weight 39 and atomic volume 24—it is not found possible to chase out the sodium, the new atoms being too big to pass along through the spaces where the sodium had been. We are thus confronted with a molecular porosity which can in a sense be gauged; and the mechanical influence of the volume of the atom is thus made evident. It will also be evident that there is a direct connection between the properties of a mass and the volume of its atoms. These remarkable results have been entirely confirmed and somewhat extended in the experiments which were undertaken in accordance with the request that was made to me. The septa, or dividing partitions, were made mostly of soda glass, of which thick bulbs were blown from barometer tube; and in most of the experiments the glass was electrolysed, using mercury and an amalgam of some metal as cathode and anode respectively. The temperature was from 250° to 350° C., or 480° to 660° F.; the electro-motive force employed was 100 volts; and the current in the case of the sodium experiments averaged about 1000th of an ampère, and was sometimes as high as 1-50th of an ampère When thin glass bulbs were employed, they soon became cracked, and the free passage of the current fused the glass, forming a well-rounded hole. In each experiment a safety fuse was placed in series to stop the current in case of breakage. In experiments in which sodium amalgam had been placed in the bulb and pure mercury outside, sodium passed into the mercury to the extent of 0·03 gramme or 0·46 grain. In one experiment, which lasted 18 hours, the amount of sodium found in the mercury was 0·0131 gramme or 0·2022 grain. The quantity of electricity which passed through the glass was measured by the aid of an electrolytic cell placed in series, in which copper was deposited to the amount of 0·0206 gramme or 0·3179 grain. Calculating the number of coulombs of electricity passed by means of the electrolysis of glass, the number 55 is found, and by the electrolysis of copper sulphate 62, thus showing, as well as a rough approximative experiment could, that the passage of sodium into the mercury follows the ordinary law of electrolysis. It is doubtful whether the sodium from the amalgam actually penetrated right through the glass, but there can be no question that it replaced a considerable proportion of the sodium which the glass contained. An attempt to pass potassium through the same glass failed. Gold was then used, both in the form of amalgam and dissolved in metallic lead, but in the latter case the temperature employed was, of course, higher. No gold was found to have been transmitted through the glass, but the glass employed became coloured by gold, and minute spangles of the metal were found embedded in it. The same result was obtained when copper was used as an amalgam; and in this case minute nodules of copper were deposited below the surface of the glass, an effect which is highly suggestive in connection with the formation of mineral veins by earth currents. The terminals employed were made of platinum wire; except when copper amalgam was used, and then a copper anode was employed. Sodium amalgam placed in a bulb and surrounded with mercury, but with no current, gave negative results, showing that simple diffusion did not play any important part in the results obtained. The glass used in the case of the sodium and potassium experiments became very tender and friable. The mere fact that a current passes at all through glass is a proof that electrolytic action has taken place; so that, even if a metal be not actually transmitted through glass, the passage of a current indicates that sodium, potassium, or other metallic constituent of the glass, must be leaving it, and is probably replaced by one or more of the metals in the metallic bath which constitutes the anode.

It is not necessary to do more than state the general outcome of the work, as the experiments, notwithstanding their great interest, can be considered only to be incidental to the main investigation of the committee, the object of which is to ascertain how far the mechanical properties are in accordance with the "periodic law" of Newlands and Mendeléef (*Proceedings* 1893, page 102). I consider, however, that the results obtained by Professor Warburg have been abundantly confirmed.

When the second report was published, the work of the committee had entered upon a delicate and critical stage. Copper formed the main subject of investigation, and the evidence obtained in connection with it was conflicting. It was proved that bismuth, potassium, and tellurium—all of which have large atomic volumes—lower the tenacity of copper. Arsenic, which has a larger atomic volume (13·2) than copper (7·1), confers strength on copper; but it appeared that the limit of elasticity and the ductility of metals generally are greatly influenced by the presence of such of the elements which have thus far been studied as possess large atomic volumes; and this fact may be of more molecular significance than the diminution of tenacity, to which, for the sake of simplicity, attention was mainly directed when the early experiments on gold were made. In continuing the work, a series of tests were made on iron-aluminium, copper-nickel, and copper-zinc alloys, as well as those alloys which are more particularly described in the appendices to this report. The iron-aluminium alloys presented many points of interest, to which allusion will be made.

Increased Sensitiveness of Pyrometer.—It soon became evident that the recording pyrometer described in the last report, which is entirely the result of the labours of the committee, is a powerful instrument of research. It affords the most hopeful method of continuing the investigation entrusted to me. It was necessary, however, to increase the sensitiveness of the instrument. This was readily effected, and the nature of the changes which were adopted will be clear by reference to the drawings of the recording pyrometer given in plates 28 to 30 of the previous report. These drawings show that the galvanometer, which affords the means of measuring the temperatures of the masses of metal or alloy under examination, may occupy one of two positions; it may either be nearer to the slit through which the ray of light falls upon the photographic plate, or it may be further away from it. It will be evident that, as two galvanometers may be used simultaneously, with the light from their respective mirrors playing through the same slit upon the photographic plate. The further galvanometer can have a much lower resistance, and, consequently, greater delicacy, than than the nearer one; so that, while the line photographed on the moving sensitised plate from the nearer galvanometer might represent a range of temperature of (say) 1500°, the line traced by the mirror of the further galvanometer should represent only 1-10th of this. The angular deflection of the nearer mirror would not exceed the limits of the sensitised plate, while the mirror of the delicate galvanometer might traverse a far larger range. Both galvanometers would be connected "in parallel" with the same thermo-junction; and, obviously, any portion of the extended range which it was desirable to reflect on the sensitised plate could easily be caught by a suitable adjustment of the mirror on the further galvanometer. If, therefore, the thermo-junction is plunged into a mass of metal cooling from (say) an initial temperature of 1500°, the whole of the cooling curve could be traced by the mirror of the less delicate galvanometer, while only a portion greatly magnified would be recorded by the mirror of the more delicate galvanometer. The first curve derived from galvanometer would serve as a "calibration curve" for that afforded by galvanometer. By this method some remarkable results have been obtained.

Cooling Curve of Electro Iron.—The electro iron was prepared by depositing iron from chloride of ammonium and iron, the iron so deposited being used as an anode for re-depositing the iron on a slip of fusible metal, which was afterwards simply melted away at a low temperature from the iron deposited. No carbonate had been used in neutralising these solutions subjected to electrolysis. A rigorous search was made for carbon in the iron without its being possible to detect the presence of even a trace. The curve, copied from an untouched photograph obtained by the delicate method of recording just described, indicates Osmond's highest point of recalescence Ar 3, which is due to the evolution of heat that occurs at 832° C. or 1530° F. in this electro iron, as it cools down from an initial temperature of some 1200° C. or 2200° F. The second curve on the diagram shows that Osmond's point Ar 2 could just be detected at about 721° C. or 1330° F. in this specimen of iron; but the lowest point of recalescence Ar 1 was absent. These curves are merely given as an illustration of the method, and it is not my intention here to enter into the question of allotropy of iron, which has been fully discussed elsewhere. It will, I trust, be evident that this new method of investigation renders it possible to obtain information as to what is happening in the midst of a mass of metal from the moment it begins to cool until it is solid, and even after it has become solid. An examination of the cooling curve of standard gold, to which a small amount of bismuth has been added, is even more remarkable. The presence of 0·2 per cent. of bismuth causes standard gold to be so brittle that it may be broken readily between the fingers. A sensitive curve of cooling standard gold shows that bismuth, probably associated with a small amount of gold, solidifies at the very low temperature of 228° C. or 442° F. It is possible to fix the exact temperature of this point by throwing upon the same plate the cooling curves of pure bismuth and of pure tin, which are also shown. In each case the singular phenomenon of "surfusion" is well marked—that is, the property of cooling below the freezing point before actually becoming solid. The fact is thus revealed, which has long been suspected, that, although only a very small quantity of an element be hidden in a mass of metal, this small quantity can make its influence felt; for it appears to remain free, or to associate itself with but few atoms of the mass in which it is hidden. The significance of these facts will be considered later.

Cooling Curve of Aluminium-Copper Alloy.—The cooling curve of an alloy of the metal which has excited so much interest in connection with naval construction—aluminium—is given. It is the cooling curve of the aluminium-copper alloy, containing six per cent. of copper, of which a torpedo-boat has recently been constructed for the French Government by Mr. Yarrow, to whom I am indebted for a specimen of the alloy. The main mass sets at a temperature of 620° C. or 1150° F.; but the copper associated with the aluminium gives a second lower freezing point at 515° C. or 970° F. Now compare this with the alloy of aluminium which contains 30 per cent. nickel. Here the nickel, doubtless in association with some aluminium, falls out before the main mass; and this alloy is found to be considerably stronger than the other.

(To be continued.)

* Paper read before the Institution of Mechanical Engineers at the United Service Institute, Whitehall, on April 26, 1895.

† E. Warburg, Uber die Elektrolyse des festen Glases; Wiedemann's Annalen, vol. 21, 1884, page 622. E. Warburg and F. Tegetmeier, Uber die elektrolytische Leitung des Bergkrystalls; Wiedemann's Annalen, vol. 41, 1890, page 18. E. Warberg, Uber eine Methode Natrium Metall in geisslersche Rühren einzuführen: Wiedemann's Annalen, vol. 40, 1890, page 1.

MINING IN WESTERN AUSTRALIA.—A Daziel's cablegram dated Perth, April 26, states:—"The greatest activity prevails in all mining matters; many of the mines continue to open up satisfactorily. A large amount of development is being done on the reefs in the neighbourhood of Pilbarra and Marble Bar, all of which are giving promise of rich returns. Mr. Harper, the late manager of Fraser's Mine, has taken charge of the Robinson (White Feather). The New Chum, in the Murchison, is developing splendidly. The machinery has been repaired, and is now working well. At the Emerald Reward 96 tons have been crushed, giving a yield of 290 ounces of gold. Water has been struck at the Premier Mine (Coolgardie), the flow being 4000 gallons per day. Very rich stone is being raised at this mine. The Boddington's Company has increased its area to 42 acres. It is expected that the crushing at the Royal Mint Mine will will run 5 ounces to the ton. The battery at Cosgrove's has started crushing on very rich stone. At the Hit or Miss the developments show that at depth the reef is even richer than at the outcrop."

CORRESPONDENCE.

*** We wish it to be understood that we do not hold ourselves responsible for, and do not necessarily endorse, the opinions of correspondents. All communications must be accompanied by the names and addresses of the senders, though these need not necessarily be published.*

OGOFAU GOLD MINES (SOUTH WALES).

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—Referring to your Special Commissioner's report in *The Mining Journal* of April 13th, 1895,—first, may I ask this gentleman's name, and may I venture to ask where and in what mines this gentleman has worked to gain his experience to justify him to give an opinion as to whether the lodes go down or cut out at the above mines.

I am inclined to think that our Special Commissioner is like the gentleman who once saw deep into the bowels of a virgin African mine whilst sitting in his office in England, and whose opinion in the minds of sound, thinking men now is absolutely worthless.

With regard to underground working and the run of lodes, I am glad to find that our friend admits that we can get rich samples and pannings of free gold; but I notice he omits saying anything about the gold contained in the pyrites which, in this mine, must not go unnoticed.

Now, with regard to our long adit to intersect the lodes, I beg to say we have cut two very strong lodes in this adit, also a feeder on the right-hand side near the end of the tunnel, and that the quartz is coming in again at the end of the drive. We have got some distance to go before we can reach the shaft. I must also tell you that the lode in No. 2 shaft is widening out, not as our friend says, "pinched out." There is a large body of good milling ore still ungot to the south and west of the long adit, and about 1000 tons of quartz at grass. The lodes in the adit have become settled down along with the country even at this short distance from the surface.

The lodes at Ogofau appear to be heaved, but in reality no heave has taken place, only a downward slide. The quartz reefs run east and west, or nearly so, and in strike and dip cross the country, dipping north. When reefs conform to these conditions they are true veins. The gold in the east and west reefs occurs in bands or shoots from a few feet to several hundred feet, divided from each other by cubical iron and arsenical pyrites. These shoots all dip west, and at very diverse angles, sometimes running almost flat, and sometimes perpendicular. The indications are good, generally of the presence of gold right through the mine.

No greater mistake could possibly be made than to condemn these mines as either worked-out or worthless. They have not been half-prospected, and I could point to numerous cases to illustrate and support this assertion.

During the existence of the Morgan, Clogau, Cefn Coch, and Castil Carn Dochan Mines, they have seen many vicissitudes, and have often changed hands, and more than once have been pronounced as worked-out or worthless, yet at the present time discovery after discovery of payable stone is making these mines at least most valuable properties. Every day they unfold a tale which points a moral of vital importance to the mining industry. The reef, or rather reefs, were traced for considerable distances in the early days, and, so far as could be judged from the work done, formed an irregular network of lodes, the stone giving out, settling in again, and taking all sorts of conceivable directions. Gold was occasionally met with, but in disconnected patches, and ultimately the mines were abandoned.

A company, known as the Cornish Company, had been working with varying success; when one shoot of payable stone was taken out the mine was considered as completely worked out, and along with a plant, comprising a valuable water right and crushing machine of four batteries of four stamps each, was sold for a mere trifle to an adjoining company—the Gallant Tipperary.

The main adit of the Cornish Mine was 800 feet long, near the end of which the shoot of stone ceased. About 30 feet were driven beyond this shoot, but no quartz being found the mine was condemned, and disposed of as described. The manager of the Gallant Tipperary—Mr. J. Trip—recently entered a branch drive at the end of the main adit of the Cornish Mine, and when he had driven 20 feet, discovered what, to all appearances, is a new reef 11 feet wide, 4 feet of which is of a highly-payable character, and the abandoned and worthless mine is now, after a few days' work, in a healthier and more prosperous condition than it occuped in its palmiest days.

These instances prove that it would be a very great mistake to pronounce Ogofau or any mine worthless. The body of ore now in sight is sufficiently large to pay for working; in fact, the advantages offered at Ogofau should hold out great inducements to the present proprietors; this not being like a new country, cut off from all communications.

I believe that if a course of cross driving and sinking at Ogofau was adopted it would lead to grand results. It ought to be upon a systematic plan, and the drives connected by rises, so as to preclude all chance of missing even the faintest leader of quartz, which, when found, is often of great value. Nor is this system so expensive as would appear upon the face of it, for the valueless stuff excavated is used for filling in stopes, and thus two purposes are served by the one operation—namely, prospecting the claim and obtaining refuse for filling in.

It is by no means an uncommon occurrence that where cross driving is systematically carried out more gold is obtained from leaders outside the reef proper, than the quantity yielded by the main reef. In this manner the fact is explained how the gold bearing quartz can be worked at Ogofau to a profit.

It is the opinion of many of the most experienced miners in Wales that the lodes do go down, and better gold will be found at a greater depth at this mine.—Yours truly,

A MINER.

[Of course, we cannot oblige our correspondent with the name of our Special Commissioner, but we can assure him that he is a gentleman who has had experience in all quarters of the globe, and that he did not form an opinion of the Ogofau by a process of imagination, but from a personal inspection.—ED. *M. J.*]

GOLD MINING, AND THE VALUING OF MINES.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—In the present state of excitement over gold mining it might be as well to draw attention to the desirability of a little calm reasoning and more careful consideration of the legitimate value of gold mines, before launching companies on the market for their acquisition and development at such extravagant prices.

If people would but exercise a little more ordinary business precaution before entering into mining undertakings there would not be so many losses and fiascoes made. There are so many people who assume to be authorities on gold mining that the investor, no doubt, gets bewildered as to what or whose advice to take, and generally ends in taking the advice of some

one who knows less than himself; or otherwise gets led away by fancy pictures in prospectuses which shadow forth prospects of brilliant results realisable only in the imaginative minds of enthusiastic vendors and promoters.

What are termed losses in mining are more imaginary than real. Speculation in high prices or inflated stocks above the legitimate value of the mines must, as a natural consequence, end in loss. So also with mines under defective management and extravagant expenditure. In paying too much for the privileges of prospecting for gold, they (the investors) will surely come to grief.

I have often drawn attention to the deplorable waste of capital and labour in gold mining through the imprudent assumption of knowledge by amateurs, who imagine themselves competent to advise on the investment of capital in gold mining, or the management of mines. Their excited and fanciful imagination leads them and their friends (who are foolish enough to be guided by their judgment) into error and serious losses, for which the mining industry gets blamed, instead of the reckless indiscretion of the adviser and advised.

All sorts and conditions of men come to the front when a mining boom is on, who profess an intimate knowledge of gold mining. They make ridiculous offers for mines of which they do not know the value, induce their friends to buy or underwrite the stock of the marvellous ventures, and then when the collapse takes place, they say, Who would have thought it? If capitalists and investors will be guided by enthusiastic amateurs they must put up with the consequences, and not blame gold mining for their losses, but rather their own folly in being led by inexperienced men.

As laid down in my work "Our Gold Supply," 1884:—"The value of a gold mining property may be appraised by competent authorities in such a manner as to prevent any great loss on the investment, although no set rule can be laid down to guide men's judgment as to their estimate. I hold it as a safe rule not to value a gold mine at more than from two to five years' purchase. Thus, taking a mine well developed and paying good average dividends, according to the nature of the matrix operated on, for the mine to be worth three years purchase it is necessary that there should be not less than five years' work in sight of a similar capacity of ore, or the lodes (or mine) so opened that it affords a fair presumption that such a quantity of matrix can be obtained. For a mine to be worth a five years' purchase, it means also that there shall be a proportionate amount of ore in sight, or that in all presumption with reasonable development it will give eight to ten years' work. Investment in gold mines should be regulated by the fairly probable results of yields, and 20 per cent. is not too high a return to be anticipated from a well-developed gold mine.

Mines vary so much at times in value and yield that the investor has a right to the chances of improved prospects as may arise, just as he is liable to the reverse by loss. It is not only necessary that an investor should get a return of his capital in from two to five years, according to the position of the mine and the extent of its operations; but there should be very reasonable presumption from the progressive work and general features of the mine that it will continue to pay an equal rate of profit for a similar period, certainly, and with fair hopes of a continuation of profitable returns by future development.

Although a mine may be opened, and so far prospectively developed as in all human foresight to show several years' profitable work beforehand, it is impossible to say, with certainty, what the yields will be; it can only be surmised and judged of from practical observations and experience. There are so many vicissitudes in gold mining, as in other mining—such as the ore getting poorer, the lodes pinching out, getting small, or into hard country. With increased depths, increased difficulties arise, and with liabilities to flooding-out or other contingencies, it is advisable for investors to keep within a safe margin, and only invest where they can rely on matured judgment for advice.

In the wild excitement of share dealing or mining manias, and by the manipulation of the market by interested operators, shares are often rushed up to 10, 15, or 20 years' purchase. That, of course, is pure gambling—it is not legitimate speculation.

Managers, directors, shareholders, and experienced miners oftentimes get wedded to, or infatuated, with a mine they are particularly interested in, the delusion over-riding their commonsense judgment. As an illustration: A manager of a well-known mine in Ballarat, some years since, was boasting of the value of the shares which were then at £180 per share, and saying they would soon be up to £300. I told him the shares were then beyond their worth, and proved it to him on the testimony of his own estimates of the probable yields and expenses of the mine. When the result was put in plain figures it showed to him the mine was then standing at seven years' purchase (and as after-events proved, did not last as a dividend mine seven years). He was somewhat astonished at the result, and replied, "Oh! it will never do to value a mining property that way;" but, as a practical miner of long experience, I unhesitatingly assert that it is the only way to value a mining property, and that under ordinary circumstances a five years' purchase is quite long enough for anyone to go to. This standard of limit necessitates basing the calculations of valuations for eight to ten years in advance, which is generally quite enough for anyone to estimate.

There may be special instances at times when, with extra areas of country for operating on, with large bodies of ore developed, or practically so, by great depths of bores, or other means that justify an expert to value a mine over the five years' purchase, but it would have to be something very special to warrant a valuation beyond a seven years' purchase.—Yours, &c.,

THOMAS CORNISH, *Consulting Mining Engineer.*

54, New Broad Street, E.C.

THE WATER DIFFICULTY IN WESTRALIA.

TO THE EDITOR OF "THE MINING JOURNAL."

DEAR SIR,—As so much is said about the water difficulty at Coolgardie and similar districts, it has occurred to me, as a novice in these mining matters, to suggest what seems to be a very simple way out of the difficulty. In a few words, my suggestion is—oil engines and (if necessary) dry concentration.

At the Big Blow Mine, we are told, there is plenty of water of a kind, but the difficulty is to get fresh water for the boiler. Then, why not use oil engines? At other mines the position is, I believe, the same. At Bayley's Reward, however, I understand there is practically no water of any kind to be relied on. Oil engines and dry concentration seem to be the simple and natural remedy. At this mine they have plenty of 2 ounce rock, apparently, and a quantity of fairly rich stuff lying around as refuse; they have the tremendous advantage of a dry mine, and yet they are almost ceasing to pay dividends, seemingly because they don't take advantage of the facilities which modern science has prepared ready to hand.

I might suggest that where there is no water there is often wind, and I don't see why windmills cannot be used to charge compressed air cylinders, and—but here I speak as an ignoramus—even to drive dynamos to charge accumulators. The wind is a very uncertain and unsteady power certainly, but vane-sails of the best type would do much to remedy the unsteadiness, and the accumulation of electricity would provide some reserve of power for the time when there was no wind. Oil engines might be used as auxiliary to wind power.

All this, of course, means expense, but 2 ounce rock will stand some expense. I fancy the rubbish lying around Bayley's Reward would do a good deal towards paying for the new machinery. Perhaps someone, better qualified than myself to speak, may think it worth while to follow up my suggestions.—I am, Sir, yours truly,

ABBEY.

Liverpool, April 30.

THE WHEAL AGAR CONTRACT.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—We notice in your last week's issue, a paragraph in reference to our contract at Wheal Agar. We shall esteem it a favour if you will allow us to state to your readers that we regret the termination of our work at that mine. We have, under our agreement with the mine, contracted to do their drivages at prices which before cost them nearly double the amount paid us; but on the clear stipulation expressed in the agreement of a minimum overturn of from £500 to £600 per four weeks' month. This obligation on their part has not yet been fulfilled. We hope the suspension of operations will only be temporary, and that with a fresh start, the Wheal Agar excutive will be better able to fulfil their obligation to us under that clause in the agreement. We shall then be able to show even at these low prices, that a profit can be made.—We are, sir, faithfully yours,

THE TUCKINGMILL FOUNDRY COMPANY.

Camborne, April 30.

BRITISH GUIANA'S GOLD INDUSTRY.—The gold entered at the Custom House, Georgetown, on the 3rd inst. for shipment, per the Royal Mail steamer *Solent*, amounted to 4055 ounces 2 dwts. 4 grains to the value of $72,162·47, as compared with the previous shipment of 5823 ounces 9 dwts. 2 grains, to the value of $102,096. With this addition, the total output for the the year amounts to 25,058 ounces 9 dwts. 10 grains, to the value of $443,877·04. The following are the returns of gold entered at the Office of the Department of Mines for the weeks ending:—

	March 30. Ozs.	dwts.	grs.		April 6. Ozs.	dwts.	grs.
Barama	93	3	19	...	25	11	8
Barima	564	17	3	...	805	13	17
Cuyuni.....	412	10	0	...	745	5	14
Demerara	0	5	0	...	1	16	0
Essequebo	540	5	9	...	847	7	22
Potaro	194	17	22	...	744	9	11
Puruni.....		—		...	120	15	3
Totals	1805	19	15		3290	19	3

The export of gold from 1st January to 15th April, amounted to 25,058 ounces 8 dwts. 10 grains, at $443,877·04, as against 23,408 ounces 9 dwts. 16 grains, at $417,751·66 for the corresponding period last year.

MEETINGS OF MINING COMPANIES.

ALMADA AND TIRITO COMPANY.

Reconstruction successfully completed.—The shares over-applied for.

THE first general (statutory) meeting of the shareholders in the Almada and Tirito Company (Limited) was held on Wednesday at the offices, 6, Queen-street-place, the chair being occupied by Mr. S. J. WILDE.

The SECRETARY (Mr. W. F. Garland) read the notice convening the meeting.

The CHAIRMAN explained that the meeting was merely the statutory meeting of the company, and that there was very little information to be placed before the shareholders. He might, however, state that the new company was registered on January 9th, 1895, with a capital of £43,750, in 350,000 shares of half-a-crown each, with 1s. 9d. credited as paid. The number of applications received was 483,032, or 133,032 in excess of the capital of the company. (Hear, hear.) Had the directors anticipated this they might have issued a few more shares, for though the amount which would be realised by the reconstruction was deemed to be sufficient, it might have been as well to have had a little wider margin. Still, they believed there would be a sufficient sum, and, if so, there would, of course, be a smaller capital to pay dividends upon. The amount which would be realised by the payment of the 9d. liability was £13,125. Already 1d. had been paid on application, and they had that day made an additional call of 2d. It would be remembered that on behalf of the board he had, on a former occasion, undertaken that no call should be made until the company were in possession of the titles. A telegram had been received stating that the titles had already left Mexico, and were on the road to the mines, which they considered sufficient justification for making the call immediately, for they were very anxious to get the money and to proceed with the works, in order that the expenses attendant upon delay might be avoided. Mr. Taylor would deal fully with the prospects of the mine, but he might mention, in regard to the new mine, that they were hoping soon to discover the lode below the old workings, and Captain Nute was in hopes that in the course of five or six months he would have two shafts deep enough to effect this object. Silver was now, he might remind them, in conclusion, higher in value than at the time of reconstruction, a fact which, while it cut both ways, was, on the whole, in their favour.

Mr. SWAFFIELD thought the shareholders might fairly congratulate themselves on the successful manner in which the reformation of the old Almada and Tirito Company had been carried out. The directors and managers had all worked very cordially, heartily, and earnestly together in the matter, and their efforts had been very heartily seconded by their excellent secretary. (Hear, hear.) He looked with considerable hopefulness to the future of the company. The Chairman had remarked that the price of silver had risen during the last few months. As a matter of fact, it had been steadily rising ever since the company had been formed until the last few days, and that he supposed was only a temporary reaction, which did not prevent the outlook generally from being a very favourable one. They took over from the old company a valuable new mining property, consisting of a considerable extent of ground, which they believed had been tried and found productive down to the water level. They had also the old Almada Mines, with all the machinery, plant, and buildings, all of which was represented by the 1s. 9d. per share, which was credited as paid. His belief was that they had got good value for this money, and, as the Chairman had pointed out, they were left with 9d. per share liability, which would produce £13,000, practically intact, available for the opening up of the mine. They should bear in mind, also, that this £13,000 was in English sovereigns, which would produce a much larger sum in Mexican dollars, so that there was every reason to hope that the capital at their command would be quite sufficient to make a very good trial of the new mining property. In Captain Nute they had a very excellent mining superintendent, in whom they reposed the greatest confidence, and, altogether, he thought they had every reason to look forward hopefully to the future of the company. (Hear, hear.)

The CHAIRMAN said that the directors had been so much embarrassed by the large number of applications for shares in the new company, and by their different kinds, that they had taken counsel's opinion in order to know how to act.

Mr. JOHN TAYLOR said the shareholders had all had placed before them in the circular of the directors, dated, he believed, November 28, and in the report of Captain Nute, which accompanied it, full particulars of the Guadalupe Mine, and of the present prospects in connection with it. It was a large concession, 1000 metres long by 100 metres wide, and the great lode, which was spoken of—the main mother lode of the concession—could be traced throughout its entire length, and also a considerable distance beyond both to the north and south. There were most extensive old workings. It would have been gathered from Captain Nute's report that some of these were understood to be 200 years old. There were interrupted cuttings for nearly a mile along the surface of the property, and heaps of débris—called dumps—which had evidently been taken from them. These heaps appeared to have been worked over several times, and there was no doubt that large quantities of silver had been obtained from them, because one of these operations took place only a few years ago. All the indications appeared to show not only that there had been large quantities of silver taken from the mine, but that the ground had been very rich. The concession, as they were told, stood at an elevation of something like 1000 feet above the old company's works, to which the ore could be taken for treatment at the very moderate cost of about $1 per ton. Of the mines themselves there was very little to be said because of the recent period at which the company's new workings were commenced. A vigorous commencement had been made by driving a tunnel south from the old working called the Ibarras, cutting near the north end of the property, and also by sinking two shafts. These shafts were both of them at the surface some little distance to the east of the lode, and must be sunk to a certain depth in the country rock before reaching the lode. They were being vigorously pushed down, and there would probably be very little difficulty about the water. There was no doubt that the workings in the olden time were abandoned when they came to the water level, but water was more economically and intelligently dealt with now than years ago, when these workings were carried on. According to the last report—received on the previous day—the tunnel of which he had spoken was driven during the month of March 34 feet. The lode throughout was congenial in its appearance, and already Captain Nute spoke of finding occasionally good stones of silver ore in it. It seemed to him that, having regard to the small cost at which the property had been acquired, the facilities for working it with great economy, and the very strong traditions as to its former richness, the re-opening of these mines was a most attractive enterprise, and one that should give excellent results when the development works had been carried out a little further.

A SHAREHOLDER enquired whether the old mine was still being worked.

Mr. TAYLOR: Yes; but there is nothing of a cheerful character to tell you about it at present. The works are going on, and we have always had hopes of meeting with something encouraging there.

The CHAIRMAN remarked that the old mine was just paying its way.

A cordial vote of thanks to the board and management terminated the proceedings.

OTTOS KOPJE DIAMOND MINES.

The outlook more promising.—Another issue of debentures.

An extraordinary general meeting of the Ottos Kopje Diamond Mines (Limited) was held on Monday, at the Cannon-street Hotel, "for the consideration of the financial position of the company, and for the confirmation of the appointment of Mr. William Evans as managing director of the company for such period as he should continue in Africa, with the saction of the board,"—Mr. WALTER NEWMAN presided.

The SECRETARY (Mr. Thos. W. Carr) read the notice convening the meeting.

The CHAIRMAN said: Ladies and gentlemen—With your permission, we will take the confirmation of Mr. Evans's appointment as managing director first. The resolution of the board on this matter has to be confirmed by the shareholders in general meeting to conform to the Articles. Mr. Carr will please read the resolution.

The SECRETARY read the following extract from minutes of directors' meeting of 9th April:—

> Resolved: 1. That Mr. William Evans be appointed managing director under the 67th Article of Association, but such appointment shall be only for such period as Mr. Evans shall continue in Africa with the sanction of the board.
>
> 2. That, independently of any powers exercisable by Mr. Evans as such managing director, or under any power of attorney, he shall, whilst at Kimberley, give his particular attention to the questions contained in a letter of the board, signed by the Chairman, and marked "A."
>
> That the salary and remuneration to be paid to Mr. Evans for the said special services shall be one sum of 500 guineas, payable as to 300 guineas, or any portion thereof, in cash or debentures of the company, at the issue price, at the option of the directors.

The CHAIRMAN (continuing) said: When we met on 31st December last I told you a satisfactory steam trial of the plant had been made and we expected it to be at work in a few days. The cables containing this news are here, and I will read them if you wish. By letter, we learned that this steam trial was made without any ground in the machine, and only at slow speed. When ground was put in and speed increased, errors developed one after the other—not in themselves serious, but each causing delay—and as each was rectified Mr. Lisle thought it would prove the last, hence his various cables which have been published indicating an early start—all sent in good faith, but all proving erroneous. This has caused him great annoyance, which is freely expressed in his letters. That some persons must be to blame for all these mishaps appears self-evident, and the board considered it most important that one of their number should visit the mine, and sift matters to the bottom, with a view to placing the responsibility on the right shoulders. Mr. Evans volunteered to go, and the board gladly accepted his offer, as some of our most influential shareholders are his personal friends, and he has already undertaken a somewhat similar duty for another company with great success. He has full powers, and will take whatever steps he thinks necessary or advisable in the interests of the company. I may say the importance of sending a director out has been urged on us by a number of our large shareholders, with whose views we fully concur. I have every hope you will do the same. I now beg to move that the resolution you have heard read by the Secretary, be and is hereby confirmed.

Speaking in reply to Mr. MEDWAY, the CHAIRMAN said the fee of 500 guineas to be paid to Mr. Evans was a fixed one. Payment would not be made in accordance with the amount of time which Mr. Evans might spend on the property. He would be paid 200 guineas in cash, and his travelling expenses, and would take £300 in cash or debentures.

Mr. G. A. SCOTT seconded the resolution. Those who had charge of the property must, he said, have had a very anxious time. They had only weathered the storm of disappointment by the pluck and fortitude they had shown throughout. The board had done their duty, and they had certainly acted very wisely in sending out a man of great ability and foresight to be the company's representative on the spot, for he would be worth a great deal more than any amount of cablegrams and letters. (Hear, hear.) Mr. Evans was admirably fitted for the work he had undertaken. Answering further questions put by Mr. R. W. MORGAN, the CHAIRMAN said that a most experienced fitter was sent out with the machinery, besides which the patentee in Kimberley was represented by a man whose business it was to see that the work was properly carried out. He (the Chairman) could not say anything at the present moment as to upon whose shoulders rested the responsibility for the delays which had occurred; the question was entirely *sub judice*, and if he cast blame on anyone he might cast it on an innocent party. Mr. Evans was going to examine the matter from beginning to end, and until they got his opinion on the matter his (the Chairman's) mouth must be sealed.

A SHAREHOLDER thought the delay which had arisen necessarily

followed from the fact that the company were taking up something which was practically new, but he added that he was firmly of opinion that, with the assistance of Mr. Evans, the present difficulties would be overcome.

Mr. C. R. JAMES, who said he held 5000 shares in the company, and debentures to the value of £700, cordially supported the action of the board. They had certainly sent out one of the best men it would be possible to select. Mr. Evans would look after the shareholders' interests faithfully, honestly, and thoroughly.

The CHAIRMAN said he thought the company were nearly over their troubles. That morning the directors had received a cablegram stating that 500 loads were put through the machinery on the previous day in less than five hours, and that the work was going on quietly. The first part of the whole of the machinery was now, he believed, in very good working order. What now remained to be put right was the last portion—the settling troughs, which did not yet work; it was because that part did not work properly that they could not tell what would be the out-turn of the 500 loads.

The resolution was then put, and carried unanimously.

The CHAIRMAN: I now come to the consideration of the finances of the company. Our circulars have already informed you that, owing to this unforeseen and unfortunate delay, our funds are exhausted. Gentlemen, it is no use mincing matters, or beating about the bush. We must have money, or work at the mine must be stopped. That work is now being carried on by funds supplied by your directors, and they cannot go on supplying it—at any rate, unless you are assured that you will back them up. £5000 will, we believe, suffice for all our wants—erect compound, and carry us on until the mine is in full work. Surely, gentlemen, you will not allow such a paltry sum to stop us. Of course, debenture-holders can look on calmly, knowing their interest in the mine to be secure, but to other shareholders this is a matter of vital importance. There are some among our ordinary shareholders who cannot help, and who explained their inability with regret, but there are many others who are well able to take their proportion, and some who could subscribe the whole, without feeling it I beg these gentlemen not to take it amiss if, in the interest of the company, I ask—is it quite nice to hold aloof, and stand to reap an advantage without taking a share in the risk? We are not asking you to assist us to whip a dead horse. Do not forget that the work we have already done has raised your shares from 6d., unsaleable, to nearly 8s., and such is the confidence in the property even now, when it is well known we are hard up, they stand at 5s., and I believe nothing is wanted but a knowledge that we have funds in hand to send them higher than they have ever been. Now, gentlemen, I leave the matter in your hands for discussion, merely giving notice that applications for debentures, on terms of our circular of 20th, will be received at the office until Monday next inclusive. Application forms are here for any gentlemen wishing to subscribe on the spot.

The CHAIRMAN, in reply to SHAREHOLDERS, said that £31,100 debentures had been allotted out of the £50,000 authorised, so that those proposed to be issued in the present instance were part of those originally created. Of the preference shares, 31,213 had been allotted and 15,074 were under option, that option having been given to those who had taken up debentures. That had absorbed the whole of the preference issue, but the option in some cases would run off in June, and the remainder practically in July. All the debenture-holders who had applied for their interest had received it. Regarding the machinery, the company held £525, the remainder of the contract price, and they were determined not to part with it until the work was completed to their satisfaction. Of course, the debenture-holders had that machinery as an asset, and it was one which could be readily sold any time. There was no doubt the debenture-holders would not let their property slide, whatever the shareholders might do.

Mr. SCOTT and Mr. JAMES urged their fellow-shareholders to take up the debentures, and the CHAIRMAN announced that since the issue of the directors' circular £800 had been applied for.

The proceedings terminated with a cordial vote of thanks to the Chairman and directors, several SHAREHOLDERS notifying their intention of taking debentures.

GOLDEN HORSESHOE MINE.

The prospects of the property.—A manager appointed.

The first ordinary (statutory) meeting of the shareholders in the Golden Horseshoe Gold Mining Company (Limited) was held on Monday at the offices, No. 13, St. Helen's-place, E.C., under the presidency of the Chairman of the company, Mr. FREDERICK W. NORTH, F.G.S.

The SECRETARY (Mr. A. G. Wulff) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—This, as you know, is the statutory meeting, held in accordance with the law. Although your directors are glad to have the pleasure of meeting you here for the first time, and trust it is only the commencement of many other meetings at which they will have to renew this pleasure, it is, in my opinion, almost ridiculous to have troubled you to attend to-day within four months of the date of the company's registration, because it is too soon for us to have acquired any knowledge from the development of the property, so that we could have communicated it to you, and too late for you to render your directors any assistance in the very responsible duty of taking over the property from the vendors. It occurs to me that if the statute provided that directors should call the first meeting of the shareholders of any new company before the property was actually taken over from the vendors, and then and there have their final consent before the business was launched as a public company, it would be a great improvement upon the present provision of the statute. Indeed, the arrangement then would be that, after the fullest investigation and explanation, a shareholder would take his shares for better or for worse, and for richer or for poorer; and this, to my mind, would be a great improvement on the course that is now compulsorily adopted by every company. You are aware that this company was registered on 30th December, 1894, and allotment took place on 25th January, 1895. Before this was permitted, however, your directors took very great pains to ascertain the standing and reliability of the gentlemen who had reported on the property, for this was the only evidence that could be obtained by them as to the value of it. You will remember that Mr Zebina Lane reported on and had a very high opinion of it, and it was a great satisfaction that your directors ascertained that he was an authority of the very highest standing on the West Australian gold fields. Mr. Henry Wright also reported most favourably upon the property; and as he happened to be in England, your consulting engineers—Messrs. Bainbridge, Seymour, and Co.—availed themselves of the opportunity of interviewing him, and they reported to your board that they were quite satisfied, and expressed an opinion that was highly satisfactory with regard to his report. As an additional proof with regard to his ability, it will not, perhaps, be out of place to mention that he has recently obtained an important appointment to manage a gold mine in Western Australia, in which, by the bye, your directors have no interest whatever; and also to notice that a financial journal of the 24th of April, in referring to the company he is going out to manage, says he is "an engineer of high standing, who has been been at Coolgardie ever since the town has been laid out." Mr. Doolette, who also reported, was found to be an excellent authority, and after having taken every available means of testing the accuracy and reliability of the various reports, and also having taken the opinion of the consulting engineers, your directors came to the conclusion that the value of the property was fairly assured, and as free from risk as any other gold mining venture, provided at least £10,000 in cash was available for working capital, and that the £5000 reserve shares could be realised in case of need for at least 5000 sovereigns, in order to complete the development of the undertaking. They then proceeded to allotment, as I have already told you, on the 25th January, 1895, but before doing so they had considerable negotiations with the vendors as to the original purchase agreement, the terms being reduced from £4000 cash, £3500 cash or shares, and £57,500 in shares, to £1000 in cash and £64,000 in shares, and besides this concession a further important arrangement was made with the vendors, who, I am happy to say, met us in all negotiations in a most friendly spirit. It was thought that although the £10,000 might be sufficient working capital, it would be wise to secure at the time of allotment a means by which the 5000 reserve shares could be exchanged for at least 5000 sovereigns, provided the works in the future required it, and, with this object in view, your directors approached the vendors and made a suggestion to them, to which they agreed, and the result is that they bound themselves by agreement to assist us in the issue of these reserve shares, in such a way that we have no doubt that the stipulated working capital will all be forthcoming, and that these reserve shares will yield at least £5000 in cash. Well, gentlemen, when all these negotiations were over, and we were within measurable distance of having the property safely transferred to your company—and I can assure you that obtaining the transfer of mining claims on a new gold field at the antipodes, and taking care that the title is clear and everything in proper order requires the most careful attention—our next and important duty in your interest was to seek and appoint a manager in whom both your consulting engineers and your directors had every confidence. This turned out to be a most simple matter, for it so happened that your consulting engineers were personally acquainted with a mining engineer of whose integrity and ability they had the highest opinion, and who, it appeared, was just then arranging for the management of two other mines on the same fields, situate within in a easy distance of your Golden Horseshoe Gold Mine. This gentleman, Mr. Frederick Bowes-Scott, son, I believe, of Major-General H. Y. D. Scott, having by agreement with these other companies secured considerable remuneration for his services to them, was able to give us one-third of his time on very moderate terms, and he agrees to serve you as your manager for one year certain, by which time the development of the mine should be very considerably advanced, for £250 and £50 travelling expenses. I hope, gentlemen, you will consider this to be a favourable arrangement. The negotiation with him was ended on the 18th February, and on that date he was duly appointed your manager, and on the 22nd February, so that no available time should be lost, he sailed in the ill-fated steamship *Oroya*, which, unfortunately, ran aground at Naples on the 3rd March. After a detention there of 14 days, he continued his voyage in the steamship *Orient*, and on the 22nd April he cabled from Coolgardie that he had safely arrived. Meantime your directors have not been idle, and numerous meetings have been held, and endless details necessary for the formation of a new company attended to, and, finally, every thing being arranged, and the demands of your directors having been complied with, the transfer and purchase of the property was completed on 15th March, 1895. At the earnest request of your manager, made on leaving this country, your directors have supplied him with the use of a 3 head stamp battery, complete with engine, boiler, and reducing plant, by which he will be able to stamp and treat the ore he turns out of the shafts and drives that he will be making with all speed to develop the property. Our interest in this small plant is a one-third share, and it has cost for that share £187. We hope, and we believe, that it will be very useful to the company, because it will enable him to send us reports upon the ore from actual crushings, and not from mere assays, and from these reports your directors will be in possession of accurate information as to the nature of the ore before it will be needful to order the permanent battery or the necessary reducing plant. This small battery was dispatched from London on the 20th inst., and is due to arrive on the Coolgardie gold fields about the end of May, and, during the interval, I have no doubt that your manager will be selecting a suitable spot to erect it, and be preparing for it to crush. And now, gentlemen, I know you will like to know more about the property itself, and if our legislators had not compelled us to call you together so soon, we could have waited for the first report from the manager. I may say we have not urged him to send a wire in time for to-day, for we know that he would always cable if he had anything important to communicate to us. But amidst this dearth of information of an official nature from the other side, my attention has been drawn to the manner in which the property was being developed before being brought to London, and I learn that we have in our property a continuation of the same reefs running through the Ivanhoe Gold Mining Company's property, and that our property adjoins it. I am also told that a London syndicate made on the 18th inst. a cash offer for the whole of the Ivanhoe capital at the rate of £2 per share of 10s. each, with only 7s. paid, and it is reasonable to suppose that in offering to buy 7s. shares for 40s. each, they see their way to make a profit on the price offered. The nature of the country hereabouts seems to be both rich and regular in its yield, for the Great Boulder on our eastern boundary reported, under date the 17th inst., that they had crushed 33 tons for 331 ounces of gold, and the Lake View and Boulder East, removed from our property by a very short distance, crushed 170 tons, yielding 599 ounces of gold. Moreover, we are informed that the Ivanhoe, at a depth of 164 feet, has struck a good supply of water, so that at about that depth we may expect enough from our mine for all purposes. It is too soon to speak with any authority as to the prospects in view from our own knowledge of the mine or the country round about Hannan's Find, where our mine is situate; but that district seems to be a distinctly reefing country, and if it will continue to give rich returns instead of pocketty and phenomenal deposits, we shall have good reason to be satisfied with our venture. Before sitting down, I will again remind you that we have the stipulated £10,000 working capital subscribed, and the reserve £5000 cash provided by agreement with the vendors; and, as I have now exhausted all the information in the possession of your directors, I will conclude—as we have no resolution of any kind to propose—by calling upon any shareholder to ask any question that he may think proper, and, if it will not injure the company's prospects, I shall be happy to reply to it.

In answer to questions,

The CHAIRMAN said: The whole of the shares are allotted, with the exception of the 5000 shares to which I have already referred as a reserve working capital, and we have an agreement with the vendors by which we are bound to receive 5000 sovereigns for those 5000 shares if we require it. We have made no move as yet in the direction of asking for a Stock Exchange quotation. It is really too soon for the directors to have thought much about the subject of a quotation for the shares.

The proceedings then terminated with a vote of thanks to the Chairman.

THE COETZEESTROOM ESTATE AND GOLD MINING COMPANY, LIMITED.

Confirmation of resolution increasing the capital.

An extraordinary general meeting of this company was held on Wednesday, at Winchester House, for the purpose of confirming the resolution passed on April 16 last, increasing the capital.—Mr. T. GOLDNEY presided.

The CHAIRMAN said: Gentlemen—As you are all probably aware, we are obliged by Act of Parliament to call this meeting, to confirm the resolution which was passed a fortnight ago. The resolution was then fully discussed and thrashed out, and was passed unanimously, and I have now to call upon you to confirm it. Before doing so, however, I may, perhaps, say just a few words with regard to the company on this side of the water. From the other side we have nothing worth reporting to you. But on this side I may tell you that we have gone a little ahead of this meeting to-day. We were so far assured that the resolution would be confirmed to-day that we have already engaged a very capable mine manager, and his agreement will be made to-morrow, subject to the confirmation of this resolution. We have gone a little bit further than that. We have engaged what we have never had before, and that is a responsible consulting mining engineer. Whatever has been done for this company in past times has been left entirely to the mine manager. Under the new *régime* we shall have a mine manager who will be subject to the instructions from time to time of a consulting engineer that we have in London, and I may tell you, gentlemen, that with that engineer we have had the very highest credentials that any mining engineer or any other engineer could have. I am very pleased to tell you this, because I think the resolution will be confirmed. If it is so, our manager will start for the property on Saturday next, and as he goes to a property that is already equipped with a mill and in good working order, with a large capable cyanide plant, and with all instructions and intimations from our worthy secretary to help him on with his business, I think that within two, or perhaps at the outside three, months we shall be having satisfactory returns from the property. I have only now to remind you of what I said at the last meeting—that two clear days are left after the buying-in day on the Stock Exchange, so that every shareholder may have the opportunity of getting his shares registered in his name on the company's books, and thus have the right to apply for the new issue. I now beg to move that the following resolution be confirmed:—

> That the capital of the company be increased from £35,000 to £75,000 by the creation of 150,000 new shares of 5s. each (payable 1s. per share on application, 1s. per share on allotment, and the balance as and when required), and that the directors be, and they are hereby, authorised to allot such shares to such persons and on such terms as they may think proper.

Mr. BUCHAN seconded the resolution.

Replying to questions, the CHAIRMAN said that any shareholder, as soon as his name was placed on the register, might apply for any number of shares. If the shares were not sufficiently applied for they would have a larger number than the proportion, if there were a proportion fixed, but at present there was no proportion. The directors had not made any fixed statement, so that there should be no trouble about rights; having shares "ex rights" had given him a great amount of trouble on the Stock Exchange. If a shareholder who was on the register held one hundred shares he could apply for a thousand, and the directors would see that a fair proportion was allotted according to the applications which were sent in.

The resolution was then put, and carried unanimously, and the proceedings terminated with a vote of thanks to the Chairman.

COLON GOLD MINES, LIMITED.

The reconstruction completed.—Prospects improving in Colombia.

The first ordinary general (or statutory) meeting of the shareholders in the Colon Gold Mines (Limited) was held on Wednesday at Winchester House, the chair being occupied by Mr. H. S. SANKEY.

The SECRETARY (Mr. F. E. Lambert) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—I have to apologise for the absence of my co-director—Mr. Tabor—who is kept away by a bad attack of influenza. Next, I have to make a remark which you have often heard before—that there is absolutely no business to transact; but the Legislature has seen fit in its wisdom to ordain that meetings should be called within four months of the company's incorporation. Now, this company was incorporated on January 17th in this year, and, therefore, we have now called the first general meeting, or, as it is called, the statutory meeting. I imagine the Legislature ordained that we were to have these meetings, in order that new shareholders might have an opportunity of looking at one another, and of congratulating each other, or the reverse, on the events which attended the promotion of the new company. With regard to news from the mine, in our own case there is practically nothing; because, as you all know, the revolution broke out in Colombia, unfortunately, just as this company was reconstructed. The new company had been incorporated a very few days when we heard that the revolution had broken out simultaneously in nearly all the States of Colombia. The news made a certain number of the shareholders timid, and they did not come forward to take the shares to which they were entitled. Had it not been for the revolution, all the shares would have been applied for. However, we received news by cable a few weeks ago that the revolution had been entirely crushed, so that I hope we shall now be able to go ahead. The most recent letter from Mr. Russell arrived last month, and he was only able to tell us in it that the revolution had broken out in several States, that all the roads of communication at the date of the letter had been closed, and that all business in the country was at a standstill. "I am in hopes," he says, "that things will quieten down, but it is impossible to say anything for the present." Now, we have heard that things have quietened down, and we have given Mr Russell full instructions to go on with the litigation or negotiations, whichever seem likely to succeed best, over the owners of mines who have, up to now, prevented our going to work. We have sent him money to put the ditch in full order, so that he may begin working directly he is able to do so, and arrangements have been made for further supplies of money when he wants them. The condition of the home affairs is, I think you will say, very satisfactory. We told you in the notice convening the meeting that three-quarters of the share capital had been applied for and issued. I also understand that people are attempting to make arrangements with the liquidators by which the whole of the remaining shares will very shortly be taken up. When this is done we shall be enabled to pay off our only remaining debt—falling to the new company from the old company—and that is the £1000 which still remains due on the mortgage we owed before. When we met last time the mortgage was considerably more, and was carrying interest at the rate of 10 per cent.; owing, however, to arrangements made with Mr. Powles we have paid of the bulk of the mortgage, leaving a balance of £1000 only, and he has consented to accept 6 per cent., and take the rest in such instalments as we can pay it off in. I hope when we next meet we shall have paid it all off. I think the reconstruction has been a great success. I say so, although the whole of the capital, owing to reasons which I have explained, has not been taken up. The remainder will, I think, soon be taken. We are entirely free from debt. We have a 1s. left to call up on the shares, which will be employed, I think, to start working upon, and at the same time we have reduced our capital to the very modest amount of £50,000. So that directly we are able to get to work it seems to me that the shares will be very well worth their money, because very small returns would be quite sufficient to pay dividends on so very modest a capital. When we shall be able to make a commencement I would rather not prophecy, but everything has been done and is being done to that end, and I cannot help thinking now that this thunder in the air has dispersed, and the revolution is over, that possibly the Government, who have kept the upper hand, will be able to turn their attention to mining matters, and that something will be done for this company that will enable it in a short time to get to work. Still, I do not wish to prophecy as to when that will come to pass. One thing we do know, and have known all along—that the mine is a very good one. If the reports of Mr. Russell, the superintendent, and of other mining experts who have visited the property, are to be believed, the mine is an excellent one. We have, indeed, a great many mines, and they are all very good. They are all equipped with water and monitors and everything else we need, and we only want a resolution of Government, and a successful termination to our negotiations, to go to work and commence running and making profits.

A SHAREHOLDER asked whether the existing shareholders would be allowed to take up additional shares.

The CHAIRMAN replied that a certain time, afterwards extended, was allowed by the liquidator for that purpose. The matter was now entirely in their hands. Before the company was reconstructed the shares were quoted at 3d. and 6d., while now the market price

was 1s. 9d. When they next met the accounts presented would be of a more satisfactory character.

A vote of thanks to the Chairman, cordially given on the motion of Colonel CAREY, terminated the proceedings.

THE GREAT "B" SYNDICATE, LIMITED,

An increase in the company's property.

An extraordinary general meeting of the shareholders of this syndicate was held at Cannon-street Hotel yesterday, for the purpose of obtaining the confirmation by the shareholders of the intention of the directors to complete the purchase of the claims referred to in the secretary's circular letter of this date.—The Earl of DUNMORE presided.

The SECRETARY (Mr. Francis R. Elliot) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—It was considered necessary by the board of directors of this syndicate to call this extraordinary general meeting of the shareholders, so as to be able to put them in possession of all the facts connected with the transfer of this property to this syndicate. You may—some of you, perhaps—remember that when I addressed you last at the statutory meeting, which was held in this place, I informed you that we were daily expecting a cablegram informing us that the transfer had been completed. That cablegram did eventually arrive, and I will read it to you:—Re Great "B" Syndicate:—"Vigne and Mallet to Williams and Neville, dated 20th April, 1895: 'Transfer has been registered No. 447 claims, Duchess No. 26 instead of No. 30. Mines' Office made a mistake in the figures. Telegraph your confirmation of." Williams and Neville to Vigne and Mallet, dated 25th April, 1895: "Directors seek shareholders' authority; accept 26 instead of 30, Duchess claims. Meeting May 3rd; await further instructions. Without prejudicing position, insist transfer of all assets old syndicate. Further claims pegged out." Vigne and Mallett to Williams and Neville, 26th April, 1895: "Transfer has been registered. All claims pegged out. Syndicate and prospecting license secured. Has (have) delivered script." Williams and Neville to Vigne and Mallett, dated 26th April, 1895: "Reports disagree. Telegraph full particulars for meeting what is the exact number of claims transferred, also mine office explanation mistake Duchess claims." Vigne and Mallett to Williams and Neville, dated 29th April, 1895: "Have secured claims according to schedule except Duchess; there was a mistake in Mines Office bringing forward from old register 10 instead of 6. 447 have been transferred to syndicate." By this you will perceive that the number of claims mentioned in this cablegram do not tally with the numbers printed in the prospectus. The prospectus shows 43 separate blocks, comprising 421 claims, which are registered in the books of the Chartered Company, which books state officially the names of the reefs, the number of claims, and the district in which they are located. Amongst these many reefs is one called the Duchess Reef, on Concession Hill, consisting, according to the Chartered Company's official books, of 30 claims. As such, trusting to the accuracy of an official statement of the Chartered Company, the directors, in perfect *bona-fides*, printed this number of claims on the second page of the prospectus, and later on the official diagram from the mine's office at Salisbury was published and annexed to the prospectus. According to that document, however, only 25 claims were shown on the Duchess reef, so there was no doubt but what some of the officials in the mines office of the Chartered Company, at Salisbury, had made a mistake. The cablegram announcing the transfer of the claims specially mentions the Duchess reef, and the number of claims upon it as 26. Therefore, both the official documents are incorrect, as we have now one more claim than is shown on the diagram, and four less than is shown on page 2 of the prospectus. This, however, we believe to be a trifling loss compared to our gain, for, as a set off to this delinquency, the cablegram announces the transfer of 447 claims to our company as against 421 as set forth in the prospectus. We really gain 26 additional claims with which we ought to be very well satisfied. Notwithstanding this addition to our property the directors thought it only right to call you together so that you might be apprised of the exact position of affairs which, it seems to us, is more advantageous than could possibly have been anticipated, and special importance is perhaps to be given to the acquisition of these 26 additional claims from the fact that they have been selected by the original "B" Syndicate, which must have acquired considerable knowledge of the country, and therefore gained an advantage over other and less experienced prospectors. I am also glad to be able to inform you that the company's representatives are now on the spot, and the transfer having been duly completed, the greatest activity will be displayed in developing the company's interests to advantage, and concluding negotiations for floating the first subsidiary company. I propose leaving this country for the scene of operations on the 25th of this month, and you may rely upon my exerting my best efforts in the shareholders' interests, not only in regard to the development of the large number of blocks in which we are already interested, but also, possibly, in managing to secure other interests, so as to render the Great "B" Syndicate an important factor in the development of the country.

The SOLICITOR (Mr. Williams) moved a resolution authorising the directors to complete the transfer, which was seconded by Mr. ROGERSON, and carried unanimously.

A vote of thanks to Lord DUNMORE for presiding terminated the proceedings.

POLBERRO MINE COMPANY.

Prospects highly satisfactory.—Some good ground opening up.

A 16-weeks' meeting of the adventurers in the Polberro Mine Company was held on Thursday, at the offices, 37, Walbrook, the chair being occupied by Mr. JOHN B. REYNOLDS.

The SECRETARY (Mr. F. J. Harvey) read the notice convening the meeting.

Printed copies of the statement of account, and of the manager's report, were circulated in the meeting.

The accounts showed:—Receipts: To balance from last account, £144 3s. 11d.; to arrear of call of September 19, 1894, 15s.; to call made January 11, 1895 (1s. per share on the 18,000 shares of the company), £900; less on 40 forfeited shares, £2; arrear of call, 10s.; = £2 10s.; = £897 10s.; to sale of black tin to the Consolidated Tin Smelting Company (Limited) (1 ton 10 cwts. 3 qrs. 13 lbs. at £39 per ton, and carriage 5s. 2d.), £60 8s. 11d.; to discounts from merchants, £10 14s. 2d.; to balance due to the bankers, £33 12s. 5d.; total, £1147 4s. 5d.—Expenditure: By labour costs, £694 19s. 7d.; by merchants' and other bills, £449 14s. 6d.; by dues to the Duchy of Cornwall (less income-tax), £1 4s. 8d.; by dues to the lords of Tywarnhayle Tyas (less income-tax), £1 4s. 8d.; by bankers' charge (collection of Scotch cheque), 1s.; total, £1147 4s. 5d. Balance of liabilities over assets, £33 2s. 5d.

The CHAIRMAN called upon Captain Thomas to read his report, and supplement it with any observations he might wish to make.

Captain THOMAS read his report, as follows:—

> The engine shaft, which at the last meeting was sunk 8 fathoms below the 26, is now 21 fathoms below that level. During the past few weeks we have not been able to work full time in the shaft, it having been found necessary to complete the skiproad, and make some minor alterations in the pitwork. We are making very good progress with this special work. Although the accommodation in the shaft is limited, we have contrived, by taking down a small piece of ground here and there, to construct a double skiproad in which we can work skips of 15 cwts. to 20 cwts. capacity at present, and these we can lengthen, and so increase their capacity when required. When the mine gets to be in full working order—*i.e.*, when the ground is laid open for stoping, we shall have no difficulty in winding 500 to 600 tons of stuff per week in the engine shaft. It will take another week to complete the skiproad, after which we shall be able to make greater speed in sinking, as the skips will be lowered to the bottom of the shaft. The 26 crosscut north, which, as previously reported, has intersected the South House lode and Chappel's Downright lode, has been farther extended north towards North House lode. This lode, as far as can be ascertained from the workings shown on the old plans, must be 5 to 6 fathoms north of the present end of the crosscut. In the crosscut, in addition to the lodes mentioned, we have driven through numerous rich veins and branches of tinstone. From the carefully-assayed samples of stuff, broken in the last 8 fathoms driven, we find the whole of the stuff broken in the crosscut for that distance will average 32 lbs. tin per ton. It will be remembered that we have driven 11 fathoms on the South House lode and 8 fathoms on the Chappel's Downright. Both these drivages were through profitable ground (see previous reports). Our exploratory work, therefore, as far as we have gone, at and about the 26 crosscut north, is most satisfactory, and promises well for the future of the mine. The shaft will enter the same channel of ground in 10 or 15 fathoms further sinking; and we have every reason to expect that the falling-in of the several lodes and branches before mentioned on Pink lode, which is immediately south of the shaft at its present bottom, will result in an extensive and profitable deposit. Since the last meeting we have strengthened the balance-box at surface, and have put in a new piston, piston rod, and cover at the winding engine. We have also fixed a 12 inch lift below the 26 fathom level. It will be perceived that the improvements made, both at surface and underground, have been accomplished with a view to permanent extensive working; and attention will, no doubt, have to be directed very shortly to the necessity for erecting stamping and dressing machinery. Our underground operations fully warrant our looking forward to opening up large quantities of tin ground in the near future.—CHARLES THOMAS, JOHN HARPER.

Captain THOMAS supplemented his observations by saying that the object in view at present was simply to sink the engine shaft 4 fathoms, making it 25 fathoms. They would then extend a crosscut north intersecting the Chappel's Downright and South House lodes, and the branches further north, to lay open the ground there for stoping. In the meantime, they would crosscut south into the Pink lode at the same level. Possibly they would be able to sink to the junction of the Pink lode and Chappel's Downright within three months, when they anticipated being in a position to put before the shareholders a scheme for providing the necessary stamping and dressing power, for which they had splendid accommodation at the mine. He had no doubt that the mine was one of the finest in the county, and he confidently anticipated the most satisfactory results in the near future. Already their most sanguine anticipations had been exceeded. (Applause.)

A SHAREHOLDER inquired the average value of the tin at all points where it was visible.

Captain THOMAS replied that it averages about 35 lbs. tin to the ton of stuff.

The CHAIRMAN, who was received with cheers, said: Ladies and Gentlemen—Before moving the adoption of the agents' report and statement of account, allow me to read one or two letters I have received from shareholders. The first is from Mr. Hancock, dated May 1, in which he says:—"I am sorry I shall not be with you to-morrow, as the meeting will be an important and pleasant one, seeing that we are now within measurable distance of the success which the shareholders so well deserve. There is a considerable quantity of tin ground laid open which may be taken away at a profit at any time, and we must soon decide about erecting a steam stamps. For my own part, I believe nothing has been discovered or invented to beat the old Cornish stamps." It is well known that Mr. Hancock is a very energetic Conservative. We are very much obliged to Mr. Hancock for writing such a letter, and we are very sorry that he has not been able to be with us to-day. The next is from one of our largest shareholders—Mr. Challis, of Salisbury, who says:—"I am exceedingly sorry I cannot attend the meeting to-morrow, having a rather severe attack of bronchitis, which keeps me a close prisoner at home. I cannot tell you how extremely disappointed I am in not being able to be present. With kind regards, and earnestly wishing you may have a most successful and pleasant meeting, I am, yours respectfully, T. Challis." Mr. Challis is one of our most intelligent shareholders. He knows as much about this mine as even the managers themselves. He follows all the points with the keenest interest, and it is, personally, a great disappointment to me that he is not with us to-day. The next letter—addressed to the secretary—is from the Hon. Ashley Ponsonby. He says:—"I regret very much I am unable to attend the Polberro meeting to-morrow. Since my accident, I have not been allowed to go up or down stairs, although I am much better and getting stronger. Still, I could not venture to go on or down your lift. Will you convey my very sincere regrets at my unavoidable absence. Remember me very kindly to Mr. Reynolds, and tell him I should certainly have attended if I could have got to your office." Another comes from Captain Harper, written since the inspection by the manager, which you will hear with a great deal of interest.—"We have been sinking through very fine strata in the shaft during the week. It is full of branches; some of them very rich for tin. The ground has been harder, and letting out a little more water." Then I am very glad to convey some information at this particular moment which may be of interest to some shareholders here, and which certainly is of great interest to the St. Agnes district. This is a telegram I have received from Mr. Hancock:—"Grand discovery on Pink lode in Blue Hills; important for whole parish." I believe the lode is said to be worth from £90 to £100 a fathom. Well, we wish our Blue Hills friends every possible success, and trust this discovery, which they have made, may continue to be as good as it looks at the present time. (Cheers.) Turning now to the accounts, you will observe that a very small item is down for tin sold—only £60. Perhaps I ought to have directed special attention to this on previous occasions, but really it did not strike me as being worth while; but the time has now arrived when, perhaps, I should draw particular attention to it. The fact is, that our stamping appliances are thoroughly inefficient; and I am very sorry, indeed, that even this small quantity of tin was sent to the stamps to be crushed. It is calculated that we stamp tin at our water stamps under very considerable disadvantage. We have at surface about 1½ tons of tin. This only indicates that, considering the moderate amount of drivage, we must have passed through some remarkably good ground. Now, if any shareholder wants more minute information concerning the present condition of the mine, I should recommend him to have the mine inspected. It has now reached such an interesting position, that I venture to think that my ordinary speeches can be very well dispensed with. Time was, ladies and gentlemen, when we had not a speck of tin in sight, and then I had to paint for you beautiful visions of the future, which should stimulate you to put your hands in your pockets and contribute towards the development of this mine. Now we see for ourselves that we are on the eve, in all probability, of opening up one of the richest mines that this country ever produced. (Applause.) Now you must not think this is the language of exaggeration, but, as I was explaining to the committee before the shareholders' meeting—we have nothing like it in Cornwall. I mean nothing like the features which present themselves in the Polberro Mine. We at the present time are entering not into a lode in the ordinary acceptation of the term, but we are actually entering into a quarry of tin. (Cheers.) Try to grasp that idea if you can. The branches in this quarry of tin are all dropping down, as Captain Thomas has so well informed you, directly on to the Pink lode. Well, gentlemen, I want you to bear in mind that the further we have driven this crosscut, the better the ground has become; and I want you, also, to bear in mind that the deeper we have sunk the shaft the better, also, has the ground there become; so that there is every indication that the further we go north, the better our prospects will be. Now exercise your own common sense, and try if you can form an idea of what we may expect from the Pink lode upon which, practically, we are walking in the shaft at the present moment. I venture to express the opinion that we shall open up ground in the Pink lode underneath our present levels in the north worth, at least, for a long distance, £100 a fathom. (Cheers.) My excellent friend Mr. Strauss is looking at me with very considerable amazement—(laughter)—but I can assure him he will do well to mark, learn, and inwardly digest the statements I have just made. There was a time, ladies and gentlemen, when people in West Kitty called me an enthusiast, when I had scarcely anyone to help me in that enterprise. People were kind enough and bold enough to say in the open market that there would be nothing found in West Kitty. The wish was father to the thought, for it came to pass that soon after these gentlemen were good enough to express that opinion we cut a lode worth from £150 to £200 a fathom, and now West Kitty is one of the richest mines in the country; and, with regard to that matter, I may remark that I firmly believe West Kitty will in the future pay as good dividends as ever it has paid in the past. (Hear, hear.) I do not believe that in the future there will be any district to compare with this in the county of Cornwall. (Cheers.) It is bound to take the lead, and I hope it will take the lead before I have become much more venerable. (Laughter and cheers.) Now, gentlemen, turning again to the accounts, I wish to draw your attention to the fact that we owe the bankers £33 12s. 5d. That is the only debt we have due to anybody, and the managers will, I am sure, be pardoned for not having provided quite enough in their estimate for our working. The reason for it is that we have paid for a quantity of extra machinery and castings, costing altogether about £204 14s. 1d. That has been an extra expenditure. But I never like to see a deficit balance even to so small an amount. Then we have an item—arrear of call, 10s. I protest against any man not paying his call promptly. We allow nearly four months. That is too long. We ought only to allow three months for the payment of a call. One cannot trifle in this manner with the payment of any other debt, and directly a call is made by the shareholders in meeting assembled in a legal way, it becomes a debt, binding on every individual adventurer. Every adventurer will get his proportion of any advantage which may arise in the future; and why should he not bear the burden—even though it be heavy—to any extent which is necessary, in order to arrive at a successful result? No arrears of call shall ever be made in this office. I will never excuse any shareholder under any circumstances whatever; and if a shareholder does not pay his call his shares shall be absolutely forfeited. Besides, gentlemen, it does not rest with me. It is a rule and regulation of the company that we allow no arrears of call, and we take no credit. This is a cash company; we neither give nor take credit, and let me say that no shareholder is safe in a Cost-book company which gives and takes credit. I have upheld the Cost-book system in its integrity, but only so long as the rules and regulations involved in the Act of Parliament are strictly and honourably adhered to. (Hear, hear.) There is little more that I have to say to you, but before I sit down I must refer to the stamps. We are almost face to face with an expenditure in that direction. Captain Thomas is quite right; we must get down with the shaft and find the junction of the lodes, in order that we may see with our own eyes that there is sufficient tin laid open not only to ensure the payment of costs, but to make a profit. The erection of these stamps will be the signal for the division of profits in this company—(applause)—and I expect to have to call you together very soon to consider this question of the stamping power. When you receive the notice you will also have an intimation of the quantity of tin ground which has been opened to justify such an expenditure. Gentlemen, do not be alarmed; the call which we shall make for the stamps will not ruin you at all. We shall, in fact, scarcely feel it. I, personally, shall be delighted to pay it, because I shall know that it will be returned to me in dividends very soon after. Therefore, the sooner the time comes when the general manager, Captain Thomas, calls us together to consider the subject, the better I shall be pleased. It only remains for me to offer you my most hearty congratulations. The state of this mine at present is a load off my shoulders, and I can scarcely express to you the relief it gives me. I have had to work in this company almost alone through many difficulties, and I can only say that my reward will be in giving the shareholders what they so evidently deserve. (Applause.) I have very much pleasure in moving:—

> That the statement of account and manager's report now presented, be and are hereby received and adopted.

Mr. STRAUSS said: Mr. Chairman—I have very much pleasure in seconding the resolution before the meeting. It was not with amazement that I looked upon the Chairman when he made the remark that he expected soon to find the Pink lode worth £100 a fathom; it was with admiration. His sanguine temperament struck me with envy. I am quite content to look upon the ground we have not opened up, to take the statement of our manager and to look upon the ground which has been seen and gauged with almost absolute accuracy. We have our captain's report that there is a large piece of ground which is fairly rich in tin, and that is quite sufficient for me at present. I must congratulate Captain Thomas on the great foresight which he exercised at the last meeting. I know it is not easy to forecast the exact expenditure for 16 weeks, and I think the greatest credit is due to our manager for having kept so well within the limit of the 1s. call which was then made, and which, I understand from the Chairman, actually included some extra expenditure. It is quite refreshing to come to a meeting like this after reading the reports or attending the meetings of such mines as Wheal Agar and South Condurrow, which lately have been obliged actually to suspend operations; and it is even more refreshing, when we read the report of the underground operations which it is contemplated to carry out in the near future. I know Captain Charles Thomas sufficiently to know he would not put his name to such a statement unless he were fully convinced of its truth. Captain Charles Thomas is not over sanguine, and I always look upon anything he writes with the greatest confidence. As to the future price of tin, I do not think that we are very much concerned in that matter. There is no doubt that trade is improving both in America and also in this country. The despondency which has prevailed in Cornwall is inexplicable to me. They seem to think they are going to be swamped by foreign tin, and I have endeavoured to do my very best to reassure them on that head. (Hear, hear.) For myself, I feel confident that with a little patience and a greater improvement of trade, we shall see the old price of tin back again. I noticed that some of the shareholders here were rather anxious to get at the exact time when Captain Thomas will be able to commence stoping, and seemed almost impatient to hurry forward the time. Now, I think it is actually an advantage, and not a disadvantage, to delay stoping for a little time. (Hear, hear.) My own impression is that time is in our favour, and that if we sell our tin, which we know is there, and which we shall be able to get at some time or another within the next month or two, somewhat later we shall get a much better price for it, and that is of the utmost importance to us, because you must not forget that 35 lbs. tin to the ton of stuff is not over rich, and requires the greatest economy of handling, in order to make a profit at the present price; but if the price of tin will again resume its normal level, then 35 lbs. tin to the ton is a very fair average, and will give us a very fair profit, indeed. Therefore, I should differ from some of the shareholders here who seem so very anxious that stoping may commence without any delay. I know that the tin is there, that it is ours, and I feel quite contented. By all means let us explore the mine as well as we can, but don't let us hurry Captain Charles Thomas in the management of the mine, which he has conducted to everybody's satisfaction, and in a miner-like and able manner. (Applause.)

Captain THOMAS said that the 35 lbs. tin to the ton, to which Mr. Strauss had referred, was the value of the branches and lodes in the crosscut. These branches and lodes were, however, all falling in on the Pink lode and would unite in depth. The Pink lode was the same in their mine as it was where the discovery had just been made in Blue Hills. (Cheers).

Mr. ROBERTS enquired how far the discovery in the Blue Hills was distant from the point they were working in Polberro.

Captain THOMAS replied about ¾ mile.

The motion was put, and carried unanimously

The CHAIRMAN then moved:—

> That to meet the requirements of the company for the next three months a call of 1s. per share on the shares of this company be, and is hereby made, payable to the bankers of the company, Messrs. Bolitho, Williams, and Co. (Limited), late West Cornwall Bank, Truro, on or before Thursday, May 23, 1895.

Mr. PAYNE, in seconding the resolution, said he felt confident that the period of calls was fast drawing to a close, and that that of dividends was in the near future. Since they were t l already

that if the stamps were at work they would be able to raise enough tin to pay costs, he thought they had every reason to repose confidence in the prospects of the mine. The mine was not worked at all in depth, and it was a significant fact that the deeper they got the more valuable the ground became.

The resolution was then put, and carried unanimously.

Mr. GAIT moved:—

That the best thanks of this meeting be, and are hereby presented to the committee of audit and finance for their past services, and that they be re-elected.

He knew that the committee did their work thoroughly, and with their close supervision and that of the auditors he felt sure no error could creep into the accounts.

The motion was seconded by Mr. ROBERTS, and carried unanimously.

A cordial vote of thanks to the Chairman terminated the proceedings.

LINDSAY'S GOLD MINES LIMITED.

A satisfactory beginning.—Mr. Lindsay describes the property.

The first ordinary general meeting of the shareholders in Lindsay's Gold Mines (Limited) was held yesterday at Winchester House, the chair being occupied by Mr. HOFFMAN.

The SECRETARY (Mr. Alfred H. Oxenford) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—As you are aware, this meeting is called to comply with the Act, which requires that a meeting of shareholders shall be held within four months of the registration of every public company; and though it often happens that in so short a space of time nothing of very grave moment is likely to have transpired—especially when the property to be acquired by the company is at the other end of the world—yet this enactment is a wise one, because it introduces the board to its fellow-shareholders, and it gives the directors an opportunity of explaining and telling you, gentlemen, in what sort of a concern you have invested your money. In this case, gentlemen, I feel I cannot help congratulating you that we have prospects which are second to none, and although what I have to tell you will not sound like a fairy tale, yet we have such a well-defined and proved reef that I do not think we shall be long in giving you a handsome return for the moneys with which you have entrusted us to purchase and develop the property. (Cheers.) We went to allotment, gentlemen, with our full working capital of £20,000—an amount which I do not think many West Australian companies can boast of—and here I would remark that such was the opinion of our property on the other side, that we received several applications from the other side, and the owners of the property, who had stipulated for a certain cash payment for the property, applied to us by cable to let them have shares instead of cash, and as we did not immediately respond to this demand they put in their application for shares so as to ensure their getting shares and not cash. We have engaged as manager Mr. Cleland, of whose ability we have already had proof, and who, we are informed, is in every way able to carry us to a prosperous future. Our crushing machinery and hoisting plant was sent out last month, and of its kind we think it will be as complete a plant as has yet been shipped to that colony. A complete dry crushing plant has been sent out, with engine power to drive, also a pair of winding engines to wind to a depth of 1200 feet, together with galvanised iron buildings and stores. It is intended to work the dry crushing (Terra Secca) machinery jointly with the Lindsay Extended Mine, thus effecting a saving of one-half in the cost. Arrangements have been made with the company's own agent to take charge of all the machinery and plant at Fremantle, and not to leave it until it is delivered on the field. The object of the company is to avoid the very serious delay and inconvenience which has been caused to other mines through machinery lying for months at Freemantle and Southern Cross before it got sent up to the mines, and then, in many cases, some portion of it lost. The confusion at Southern Cross, the furthest point of the railway on the route to Coolgardie, has been most serious, owing to the carriers being unable to cope with the enormous amount of stuff going forward. We are glad to say that carriage to the field is from £10 to £12 per ton lower now than it was some 6 to 8 months ago, which will mean a saving of over £1000 to this company. We have engaged the services of a young mechanic, Mr. Morris, who is to go out next month and give his services in erecting and running this plant, under the superintendence of our manager, and we have taken the precaution of teaching this young man the intricacies of assaying ores, so that our staff will be in every way an efficient one. And now, gentlemen, as to our mine. You must not compare size of properties in Western Australia with Rand properties. In Western Australia we have what we believe to be true fissure veins going down into the bowels of the earth, in most cases nearly, if not quite, perpendicular, so that if you have a fair length of outcrop reef you are likely to have a very long life; whereas on the Randt they are working a deposit which is getting flatter and flatter, and consequently acreage is of the very greatest importance, being similar in that respect to a coal mine. We have sunk on our property already a depth of 133 feet. At 100 feet we crosscut to the lode, and we struck the reef at a distance of only 12 feet from the shaft, where our reef is 10 feet thick, assaying from 3 to 6 ounces. I need not tell you, gentlemen, if this continues (and we have no reason to doubt that it will) we have a marvellous reef. We have received a telegram during the last few days, which was sent at our request, to tell you the latest news at this our first meeting, which reads as follows:—"No. 1 shaft sunk 133. Crosscut now being run the bottom of the shaft; think we shall soon cut the vein. Good ore is still being found on the 100 feet level. Seven tons first-class ore has been raised, samples of the ore yielded 6 ounces of gold per ton. Am now sinking two additional shafts for further development of the property. Prospecting vigorously carried on, we are now employing 27 men." I have also to acquaint you that you may before long expect to have further information as to how much we may expect our ore to run, for we instructed our manager, soon after getting possession of our property, to put 20 tons of stone through a battery, and our manager writes as follows regarding these instructions:—"I have taken steps towards carrying out the wishes of the board of directors in respect to vigorously developing the property, and to stope 20 tons stone for a trial crushing from the 100 feet level of the No. 1 shaft. The trial will be made at the battery of the Mount Burgess Gold Mines (Limited), situated 7 or 8 miles from here. I have arranged for special supervision of the men engaged in breaking this ore, so that loss from theft may be reduced to a minimum. The ore will be placed in bags underground for sending to the surface. The charge for milling and amalgamation is to be £4 per ton, and the cost of cartage—for which I have not yet arranged—will be probably about £2 per ton." I have still, gentlemen, the pleasure to inform you that our namesake, Mr. David Lindsay, is in this room and will kindly give you some short details of your property. Mr. Lindsay, as you, gentlemen, are probably aware, has traversed Western Australia from north to south, and from east to west, travelling, I believe, close on 10,000 miles in that country. It is to him that we owe the details and maps of the interior of this marvellously auriferous country, and I think that we should feel proud that he has chosen our few acres to be called after him. I trust they will prove worthy of their namesake.

Mr. LINDSAY said he was very glad to have an opportunity of addressing his brother-shareholders in the mine, in which he had a very large interest, having been the original applicant for the block, and one of the original syndicate who spent £1500 in prospecting before asking the public of England to subscribe a penny to assist them in the further development. The position of the block in which the company was interested rendered in of considerable value, as compared with many other properties put on the market; because it was only ½ mile from the township of Coolgardie, and within 1 mile of the station of the railway, which would be constructed during the next 12 months, very greatly reducing the cost of carriage, and the working of the mine. From this block a very considerable amount of alluvial was taken in the early days of the Coolgardie rush. In fact, it was just near the boundary that the first gold was obtained in the district by Bayley, and it was by seeing large pieces of gold contained in quartz obtained by the dry blowers that the speaker's attention was first directed to that particular spot, and, after a thorough examination, he decided in his own mind that a rich reef must exist beneath the surface, and that it could be found with the limited money at their command. He was glad to say that only last December the rich reef was struck. Two days before he left Coolgardie—February 20—he inspected the reef, and he was so pleased with it that, although the company's shares were quoted at a very high figure on the market at Adelaide, he only sold two. The bed of quartz was quite 10 ft. thick, and the gold could be traced without the aid of any glass. With a candle it was possible to walk along the flat and view all the reef, seeing the gold in nice-sized pieces. This gold continued as far as they had driven, and still showed at the end of the drive, giving promise of a very valuable reef, indeed. There would be, he felt confident, very little difficulty about the water question. Half a mile distant from the property water in abundance was discovered at 107 feet; 7 miles to the north at 150 feet they had enough water for 15 stampers. So, judging from surface indications and surrounding discoveries, they expected to get water at from 150 feet to 200 feet. There could, in fact, be little doubt that they would get it before they reached a depth of 200 feet. It might be asked why it was that Bayley's had not plenty of water. This, he thought, was accounted for by the fact that the reef was broken. There had been a slide in the country which had closed the water channel. This would not occur in their own case, for they could trace the line of the reef for a very considerable distance north and south. There was an abundance of wood in the neighbourhood, both firewood and for mining purposes. He could congratulate the company upon possessing such a manager as Mr. Cleland. He had known him personally for many years, and a more honest and capable man he did not believe could be found in Western Australia. He had been entrusted with the general management of about seven properties in Coolgardie, altogether, since June of last year, and he was quite sure they had never had any occasion to find fault with him for extravagance, though it would easily be understood to be in the power of any mine manager situated so far from the controlling board, to waste a great deal of money.

Mr. LINDSAY, speaking in answer to questions, added that the reef was a solid body of quartz with clean, well-defined hanging-walls. By the time the machinery was put up he had no doubt that there would be plenty of rock ready to crush.

A SHAREHOLDER asked whether the board were in possession of any definite record of experience in connection with the working of the Terra Secca process, and also whether the company would derive any benefit from the operations of the alluvial workers, who had been working on the surface of the land since the company was formed.

Mr. LINDSAY said there were only one or two alluvial workers operating now. They could be removed at any time.

The CHAIRMAN said that, in regard to the Terra Secca process, they had a member of the board—Mr. Harmon—who was interested in a company which had carried on this process, with very great success. They were astonished to find that whereas up to the adoption of the Terra Secca process they had only been able to treat 5 or 7 tons of quartz per day, they were subsequently able to put 30 tons through the crusher.

Mr. HARMON said that the process was in working in the Cashman's Mine, and the testimony of the gentleman sent out in charge of the works was to the effect that it was working splendidly, and was seven times as efficient as any dry-blower on the field, and saved the very finest gold in the most satisfactory way.

A vote of thanks to the Chairman concluded the proceedings.

PROVINCIAL SHARE MARKETS.

THE CORNISH MINE SHARE MARKET.

Mr. MICHAEL WILLIAMS BAWDEN, Mining and Assaying Offices, Liskeard, Cornwall, writes (May 2) as follows:—The mining market continues dull and inactive; prices are without any noticeable change, and business limited:—Blue Hills, 4s. to 5s.; Carn Brea, 1⅛ to 1⅛; Cook's Kitchen, 4s. to 5s.; Devon Consols, 32s. 6d. to 34s.; Dolcoath, 39½ to 40; Drakewalls, 2s. 3d. to 2s. 9d.; East Pool, 4⅛ to 5; Killifreth, 8s. to 9s.; Levant, 4⅜ to 5; Polberro, 17s. 6d. to 18s. 6d.; South Crofty, 8s. 6d. to 10s.; South Frances ⅛ to ¼; Tincroft, 5⅛ to 5⅜; West Frances, 8s. 6d. to 10s.; West Kitty, 5⅛ to 5⅜; Wheal Basset, 11s. to 12s. 6d.; Wheal Grenville, 10 to 10½; Wheal Kitty, 2s. 6d. to 3s. 6d.

Messrs. ABBOTT AND WICKETT, Stock and Share Brokers and Mining Share Dealers, Redruth, write under date of Thursday, May 2:—A quiet market, and prices slightly lower. Dolcoaths about 40½, but, pending the meeting on Thursday, when the scheme of reconstruction will be explained, there is no particular desire to deal in the shares. Quotations herewith:—Blue Hills, ⅛ to ¼; Carn Brea, 1⅛ to 1⅛; Dolcoath, 40 to 41; East Pool, 5 to 5⅛; Killifreth, 7s. to 9s.; Polberro, ⅛ to 1⅛; South Condurrow, ⅛ to ¼; South Crofty, ⅜ to ⅝; South Frances, ⅜ to ⅝; Tincroft, 5⅛ to 5⅜; West Frances, ⅜ to ⅝; West Kitty, 5⅛ to 6; Wheal Agar, ⅛ to ¼; Wheal Basset, ⅛ to 1; Wheal Grenville, 10 to 10½; Wheal Kitty, ⅛ to ¼. Tin, 64½.

MANCHESTER.

Messrs. JOSEPH R. and W. P. BAINES, Stock and Share Brokers, Queen's Chambers, 7, Market-street, write May 2 (noon):—The several railway markets show a deal of irregularity in changes for the past week. Home rails have been very much neglected, and herein declines—mostly, however, small in amount—are in majority, the small minority including an advance of ⅜ in Brighton A. Canadians have fluctuated in some issues, the limits of change being pretty wide, but Pacifics and Grand Trunk issues alike (save only the third preference, which are unaltered) all maintain fairly good advances on the week. Americans also are contradictory in their quotation movements, advances and declines being about evenly divided, and none on either side reaching $1 in amount. Following these remarks we give the daily changes. On Friday last home rails were without feature either on business done or alterations in current prices. In Americans, Denvers, Louisvilles, and Milwaukees were strong, but the rest were contradictory. Canadians enquired for all day, and as a result several better prices were established. Mexican prices undisturbed.—Saturday. Home rails, though all but without a mark of business, held up their prices. Americans began fairly well, but some selling for profits brought prices back somewhat. Canadians had a good start, but later they fell away. On Monday last home rails were stagnant, but prices only fractionally altered. In Canadians, Grand Trunk issues were irregular, first and second preferences a little better, but other issues slightly lower. Mexican rails eased all round. Americans generally were a weak market, but Wabash were an exception, the debentures being 3⅝, and other issues slightly higher. Tuesday found home rails rather on the easy side, nothing great, however, in the way of decline in any case. Both Americans and Canadians were in demand, and continued so down to finish of business, with some substantially better figures established. Yesterday being May 1 was as usual a closed day. This morning home rails open pretty much the same as at close on Tuesday, with, however, fractional improvements in majority. Americans only just about same as Tuesday's close, the trifling changes being few and contradictory. In Canadians, opening prices show improvements all round on those last marked. Consols are not quotably altered on the week, and the same remark applies to home corporation stocks and debentures. Colonial bonds, &c., show New Zealand Inscribed 3, Cape of Good Hope Registered 1, and Canada Registered ½ up, and without any declines to contradict.—Foreigners, Mexican Six per Cent. 2½, and Argentine Five per Cent. ½ up, but all the rest where altered are to lower prices, viz., Brazilian Four per Cent. 1⅜, ditto Four and a-Half per Cent. 1½, Spanish Four per Cent. 1⅜, Italian Rentes ⅝, Uruguay Three and a-Half per Cent. ½, Argentine 6 per cent., ½ to ⅝; Russian 4 per cent., ½; Portuguese, 3 per cent., ½; and Egyptian Unified, ½. Miscellaneous shares have produced but a meagre total of transactions, but dealings have been frequent in "unlisted" shares. In those quoted here prices are not altered to an extent worthy of special mention in any case, so we content ourselves by simply recording the actual changes.

BANKS.—Higher: District, ½; Imperial Ottoman, ½; and Salford, 1-16 to ⅛. No declines.

INSURANCE.—Higher: Lancashire, 3-16; Manchester Fire, ⅛; Royal, ⅛; and Equitable Fire, &c., 6d. to 1s.—Lower: Liverpool and London and Globe, ⅛; London and Lancashire, ⅛.

COAL, IRON, &c.—Higher: Cammell's ⅛; Dorman, Longe, ⅛; and A. Knowles, ⅛.—Lower: Ebbw Vale, 11-16; Bolckows £12 paid, ⅛; ditto fully paid, ⅛; and Staveley C, ⅛.

COTTON SPINNING, &c.—Market tone continues good, and sellers hold off from offering lots except at good advances on recent nominal prices.

MINES.—Higher: Tintos, ⅜; Great Laxey Lead, ⅛; Ooregum Ordinary, ⅛; ditto Preference, 1-16; and Tharsis, 1-16.—Lower: Chartered of South Africa, 5-16 to ⅜; De Beers, ⅛; Darien A, 3-16; Consolidated Gold Fields, ⅛; Mysore Gold, ⅛; and Burma Ruby, 1-16.

TELEGRAPHS.—Lower: Anglo-American Preference, ⅛; and West India and Panama, ⅛.

BREWERIES.—Higher: Allsopps ⅛, and Hardy's Crown ⅛. Lower: Clarkson's ⅛, Parkers Burslem ⅛ to ⅜.

MISCELLANEOUS.—Higher: A. and S. Henry and Co. Ordinary ⅛ to ⅛, Lister and Co. ⅛, Manchester Palace of Varieties 1-16 to ⅛, Salt Union ⅛, United Alkalki Preference 1-16, Railway Debenture Trust 1, and Railway Share Trust ⅛. Lower: Bovril ⅛, Brunner Mond, ⅛, Jones' Sewing Machine ⅛ to 1, National Steam 1-16, Spiers and Pond ⅛, and Suez Canal 1 to 2. Manchester Ship Canals very quiet, and prices remain without quotable alteration.

LATER (4 o'clock P.M.).—Tone better in home rails to-day, the "heavy" lines being most to the front, with advances ranging from ⅛ to ⅜ per cent. In Canadians, Trunk issues were very good for some time, but latest prices are off. The best Pacifics mark a fair rise for the day. Americans are on the whole the turn better, but Mexicans are somewhat easier.

SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, Stockbroker and Ironbroker (May 2) writes:—During the past week a fair amount of business has been done. At first realisations prevailed on unfavourable rumours as to the treaty between China and Japan; but as nothing serious seems likely to result, the upper tendency has been resumed.

In shares of coal, iron, and steel companies, prices are steady. African Coal are 7s. 9d., Marbella 52s., Niddrie 43s. 3d., Steel Company of Scotland 45s. 6d., Sydney Harbour Collieries offered.

In shares of copper concerns prices are generally better, in sympathy with the market for the metal. The meeting of Mason and Barry will be on May 13. Tharsis have been selling between 92s. ex div. and 95s. 6d. cum div., and Tinto from 14 to 14 13-16. Arisona are at 20s., Killifreth Tin 7s. 6d. to 8s. 6d.

In shares of gold and silver mines a large amount of business has been done. The tendency of prices was at first downward on realisations due to a pause in buying and political rumours, but buying has since been resumed at advancing prices. One of the principal advances has been in Wemmer on the circulation of the report pointing to big dividends being resumed next month. Consolidated Gold Fields declined to 8 9-16, but are now about 9⅜ on a good interim dividend being expected soon. Afrikander have improved, on the meeting agreeing to the addition to the property, including the deep levels, and more capital being raised to increase plant, &c. Broken Hill Proprietary have been steady from 39s. 6d. to 40s. 6d. ex. April dividend. Chartered declined from 95s. to 83s. 6d., but have recovered to 91s. 6d. East Sheba Reefs wanted. African Land are at 6s. 3d.; Aurora, 23s. 9d.; African Recovery, 31s. 6d.; African Gold Concessions, 3s. 9d.; Big Golden Quarry, 2s. 6d.; Block B, 26s.; Bayley's Reward, 9s. 9d.; Balkis Eersteling, 5s.; Bechuana'and, 51s. 3d.; Cassel, 13s.; Croesus, 60s.; Coetzeestroom, 11s.; Coolgardie, 16s. 3d.; Day Dawn, 12s. 6d.; Doornkop, 14s. 6d.; East Rand, 6l.; Emma, 1s.; Gwelo, 4s. 3d.; Gold Coast Development, 7s. 6d.; Glencairn, 86s. 3d.; Guy Fawkes, 12s.; Gordon Diamond, 9s.; Gold Fields of Mysore, 28s. 6d. (touched 30s. 9d.); Hauraki, 13s.; Idaho, 4s. 6d.; Jumpers, 5⅜; Kaboonga, 4s. 3d.; La Plata, 3s.; Londonderry, 12s. 9d.; Lower Roodepoort, 11s. 9d.; Lisbon Berlyn, 8s.; Luipaard's Vlei, 23s. 6d.; Mallina, 21s. 3d.; Murchison Gold Fields, 7s. 6d.; Mosman, 7s. 6d.; May, 72s. 6d.; Nundydroog, 41s. 6d.; New Queen, 8s.; Orion, 68s. 9d.; Oceana, 62s.; Pearl Central, 32s.; Primrose, 7⅛; Roodepoort Deep, 88s. 9d.; Randfontein, 44s.; Richmond, 10s.; St. Augustine, 10s. 6d.; Southern Galdenhuis, 10s.; South Londonderry, 8s.; Sheba, 45s. (touched 51s. 3d.); Simmer, 10s.; Sherlaw's, 10s. 6d.; Spes Bona, 80s.; Torva, 33s. 9d.; Thistle Reef, 4s. 9d.; Transvaal Estate, 22s. 6d.; Tati Concessions, 55s.; Victoria and Altamira Preference, 3s. 3d.; West Australian Exploring, 31s. 3d.; West Argentine, 1s. 9d.; and Willoughby, 33s.

In shares of miscellaneous companies a fair amount of business has been done. In oil companies Broxburn have been selling from 13 1-16 to 12⅜. Pumpherston from 9⅜ to 9¼, and Young's from 53s. 6d. to 48s. 6d. The Broxburn dividend is announced at 5 per cent., which is satisfactory considering the loss carried by the coal strike. A dividend is expected on Pumpherston also. Nobel's Explosives are at 15 5-16, Roburite Explosives 60s.

EDINBURGH.

Messrs. THOMAS MILLER and SONS, Stock and Share Brokers, 69, Hanover-street, Edinburgh, report as follows under date of May 2:—Prices of home railway ordinary stocks have been well maintained, but only a limited amount of business has been done in them.

There is now an increased supply of high-class investment stocks in the market. Some business has been done in bank shares, but prices are not much changed. National have improved from 333 to 333½. Insurance shares are generally lower. Caledonian have declined from 28⅝ to 28½. Liverpool, London, and Globe from 48½ to 47½. Northern from 69 to 68½. Standard from 66½ to 66. North British and Mercantile have improved from 40 to 41. Realisation and Debenture Corporation shares have declined from 7s. to 5s. 6d. Scottish American Investment have improved from 66s. 6d. to 68s. Niddrie and Benhar up from 40s. 6d. to 43s. Arizona Copper 9d. higher at 20s. 6d. Rio Tinto 15s. higher at 14 13-16. Oils lower; Broxburn have receded from 12¾ to 12⅝, Pumpherston from 9¼ to 9⅛, Young's from 50s. to 49s., Linlithgow from 44s. 6d. to 40s. Distillers 8s. 9d. lower at 17 7-16. Prairie Cattle 4s. 3d. up at 16s.

EL CALLAO GOLD MINING COMPANY.

EXTRACTS FROM THE SUPERINTENDENT'S REPORT.

"EL CALLAO" MINE.

RECEIPTS AND DISBURSEMENTS.

ORE: The ore receipts for the calendar year, 1894, were as follows:—

	Tons.	Tons.
"EL CALLAO" LODE—Hoisted from No. 5 shaft	10,483	
" " No. 8 "	3,564	
" " No. 9 "	372	
		14,419
"REMINGTON" LODE	5,000	5,000
Total	19,419	19,419

BULLION.—The bullion receipts for the year (December 15th, 1893 to December 28th, 1894), amounting to 12,108.87 ounces of gold, valued at 1,162,368 francs, was produced as follows:—

	Tons.	Ounces.	Yield.	Value francs.
"El Callao" Lode	14,900 ..	10,629.27 ..	0.713 ..	1,020,384.00
"Remington" Lode	4,932 ..	1,479.60 ..	0.300 ..	141,984.00
Total ..	19,832 ..	12,108.87 ..	0.611 ..	1,162,368.00

DISBURSEMENTS.—The expenditure for the calendar year, amounting to 1,234,673.47 francs, are segregated as follows:—

	Tons.	Cost Frs.	Cost per ton.
Mine account, "El Callao" Lode	14,419 ..	825,158 91 ..	57.22
" " "Remington" "	5 000 ..	94,575.40 ..	18 91
Mill " "El C." & Remington	19,419 ..	160,035.49 ..	18 24
Trans. Bullion and Coin ..	— ..	13,567.65 ..	0.70
Operating Expense.. ..	19,419	1,093,337.45	56 30
Railroad construction	..	110,767 42 ..	5.70
Panama..	..	18,233.56 ..	0.94
Exploration, Diamond Drill ..	..	8,366.84 ..	0.44
Calciner	..	3,968.20 ..	0.20
Total Expense	19.419	1,234,673.47	63.58

Exploration and development work, amounting to 1913 feet of drivings for "El Callao" Lode, and 2770½ feet on Remington Lode, is given in detail in the report.

MILLING.—The mill tonnage and expenses for the calendar year, were as follows:—

	Tons.	Cost Frs.	Cost per ton.
"El Callao" and Remington ..	19,419 ..	160,035.49 ..	8.24
"Caratal" and "Tigre" ..	37,595 ..	291,028.00 ..	7.74
Total..	57,014	451,063.49	7.91

The above tonnage, 57,014, represents a crushing of 54.450 tons in "El Callao" (60 stamp) Mill, and 2,564 in "Bis" Callao (20 stamp) Mill. The latter was run during the month of October. The 1st of November a 20 per cent. reduction in the rate of wages caused a strike of the workmen, which compelled the closing of "Bis" Callao Mill, and also caused the small tonnage in "El Callao" Mill for November and December months. Assay value of tailings from "El Callao" and Remington ore averaged about 3 dwts. per ton. La Colombia tailings averaged (for the first six months) about 15 dwts. per ton, and for the last six months about 5 dwts. per ton. In the early part of the year the ore was high grade, carrying heavy sulphurets and considerable talc; this caused the heavy loss in the tailings. Over 2,000 tons of the heaviest sands and sulphurets were saved, and in December 3 "Frue" Vanners were started concentrating. A trial test will be made on these concentrates, by roasting and amalgamating (in January). The "barrel" bromine method will also be tried. Experiments have been made by the cyanide method (on a small scale) which proved unsatisfactory with these tailings.

MINE.—"EL CALLAO" LODE:—The pillar work begun in 1893 was continued through Nos. 5 and 8 shafts during the early part of the year, but as this work was nearing completion, and no pay rock was opened up in development drivings, pumping at No. 6 shaft was discontinued June 16.

The exploration and development work accomplished, amounted to 1913 feet (583·08 metres).

REMINGTON MINE.—Horse whim and hoisting derrick put up. One 30 horse power boiler (from No. 5 shaft, Callao), and a 6 inch by 12 inch compound geared hoisting engine (from Colombia) repaired and set up. A 5000 gallon supply tank and a 500 gallon railroad water tank placed. Self-dumping skip, ore-shoot, &c., built.

FOUNDRY AND MACHINE SHOPS.—62,779 pounds of iron and 3462 pounds of brass castings (a considerable portion of which was machined) were turned out of the shops, together with a large amount of miscellaneous work.

RAILROAD.—The railroad has been extended 7500 feet to the following places:—To "Remington" and "El Tigre" Mines, also to No. 4 and 5 shafts, Colombia. From "La Union" extension, which was nearly completed, a branch was run to convey the railroad ore-cars direct into the crusher floor of "Bis" Callao Mill.

"LA COLOMBIA" MINE.

Active mining has been carried on at this mine, and 30 to 70 stamps (of "El Callao" and Callao "Bis" Mills), kept on ore from Caratal and Tigre Lodes.

The receipts and disbursements for the calendar year 1894 were as follows:—

ORE. "Caratal" Lode—

No. 4 Shaft	29,278	tons mined		
No. 5 "	400	" "		
Head of lode	2,370	" "	32,048	tons milled.
Stock pile, and surface ore			4,340	" "
Total, Caratal Lode	32,048	" "	36,388	" "
"El Tigre" Lode—				
No. 2 Shaft and head of lode	1,207	" "	1,207	" "
Tota	33,255	" "	37,595	" "

Some 600 tons of waste rock was assorted from ore in the mine, and about 300 tons hoisted to surface.

BULLION.—The bullion receipts for the year (December, 15th, 1893, to December 28th, 1894), amounting to 26,802·85 ounces of gold, valued at 2,573,000 francs, was produced as follows:—

	Tons.	Ounces.	Yield.	Value, francs.
"Caratal" Lode....	36,800..	26,320·05..	0·715..	2,526,720·00
"El Tigre" "	1,207..	482·80..	0·400..	46,280·00
Totals.....	38,007	26,802.85	0.7052	2,573,000.00

The expenditure for the calendar year, amounting to 1,840,842·16 francs, is segregated as follows:—

	Tons.	Cost francs.	Cost per ton.
Mine account "Caratal" Lode	32,048..	1,290,445.32 ..	40·26
" " "El Tigre" "	1,207 ..	54,173.76 ..	44·88
Mill " "Caratal" and "Tigre"	37,595 ..	291,028·90 ..	7·74
Transport of ore, coin, and bullion.....	— ..	205,194.18 ..	5.45
Total	37,595 ..	1,840,842.16 ..	48.96

The expenses on machinery plant for "Caratal" and "Tigre" Mines for the year, amounting to approximately 100,000 francs, are included in the mining costs. Value of machinery taken from Callao not included.

Exploration and development drivings amounted to 1656 feet on "Caratal," and 225½ feet on "Tigre" lodes.

CONCLUSION.—The outlook for 1895 is not very bright, owing to the low grade of ore in sight in the "Remington," "Caratal," and "Tigre" Mines, which must furnish the ore supply for the first half of the year. There is, however, a hope that the yield may cover operating expenses, as no new machinery, plant, or charges will be necessary; and with the reduction of 20 per cent. on wages made, the operating costs on the above properties can be kept within 40,000 (forty thousand) pesos per month. Running on a 60 stamp basis, with a crushing of 5,000 tons per month, is equal to a yield of one-third of an ounce per ton.

The Panama property will probably assist during the later part of the year. The old mine is now being pumped out preparatory to working. There are also several other gold-bearing quartz lodes on this property, which can be worked to advantage when the railroad is completed. Work on grading this road began on the 14th of January, 1895, and can be completed by the end of April. The rails were ordered in November, and the road should be put in operation as soon as possible.

If operations can be continued on "La Colombia" and "Remington" Mines, when the Panama crushing begins, an additional 20 stamps ('Bis" Callao Mill) can be put to work, and thus reduce the cost per ton.

MINING IN CORNWALL AND DEVON:

NOTES ON MINING IN THE WEST.

(BY OUR SPECIAL CORRESPONDENT).

THE water question has again become an acute one in Cornwall; on this occasion not on account of any exceptional rainfall, but as a result of the extreme curtailment of operations which one or two bodies of adventurers have recently decided upon. The most serious case is—as we hinted it probably would be—that occasioned by the suspension of pumping at Wheal Agar. The big 90 inch engine at this mine was stopped at the end of last week, and the water has since been rapidly rising in the lower workings. Probably by the time this appears, East Pool, the adjoining mine, will have a considerable quantity of Wheal Agar water to deal with. Unfortunately, East Pool will not stand alone in thus suffering from her eighbour's misfortune. They will, of course, be driven from their lower workings, and the water will thence find its way into South Crofty, from that mine to Tincroft, and from Tincroft to Carn Brea. Of these four mines Carn Brea is the best equipped to meet an emergency of this kind, and will have no difficulty in keeping whatever water finds its way into the sett. The appliances at East Pool and South Crofty are certainly altogether inadequate to deal with any large influx of water such as is threatened, and unless matters can be arranged satisfactorily the immediate outlook of these mines will be rather serious. These are, of course, among the many risks to which those who adventure in mines are subject, but the conditions in this particular instance are such that the difficulty ought to be easily overcome. Obviously the solution is to be found in the working of Wheal Agar engine. The cost of this is estimated to be a mere matter of £150 or so per month or about £1 per day per mine—not a killing matter, even in these times of depression. We would suggest that a joint meeting of the executives of all the mines interested should be held forthwith, with a view to arriving at a basis on which contributions could be made for a temporary working of the engine, pending the settlement of the question on permanent lines. East Pool committee have already appealed to the lords interested in the affected setts, but it is extremely doubtful whether this will lead to any settlement. Although it is a question whether the cessation of pumping operations is not a breach of the covenants of the lease, it is hinted that Lord Robartes, the lord of Wheal Agar, takes the view that, as the adventurers have sunk considerable capital in the property, they are deserving of every consideration under the adverse conditions of price. Operations are entirely suspended at the mine, and all the hands, except a few shaftmen, have been discharged.

ANOTHER mine which is likely to have more than her share of water to deal with before long is Wheal Grenville, owing to the drastic measures which were decided upon by the South Condurrow adventurers at their last meeting. One of the two pumping-engines has been stopped, and the water from the part of the mine which it drained will, it is expected, find its way into Grenville. There is no serious difficulty to be apprehended here, however, as the pumping machinery at the latter mine is said to be capable of draining the whole district. The steps taken by South Condurrow really mean the stoppage of practically all development in the sett, and unless there is some inducement to the shareholders, either by a rise in the price of tin, or the introduction of fresh capital, to again work the western ground, the sett will have to be abandoned. The shareholders are evidently determined not to throw away very much money, and their relations with Wheal Grenville are not such as to render it probable that consideration for their neighbour's convenience will weigh with them in the least degree.

DOLCOATH meeting is fixed for Thursday, when the full details of the reconstruction scheme will be considered. The business of the meeting, as set forth in the circular issued to the shareholders, is—1. To receive a report from the committee and deputation as to the further negotiations with the lord of the mine on the question of the proposed new lease, and to pass such resolutions thereon as may be deemed necessary.—2. To consider, and if thought desirable, to pass the following resolution, viz.:—"That it is desirable to reconstruct this company on the general line of the scheme explained at this meeting, and that accordingly this company be registered under the Companies Acts, 1862-90, and that the requisite steps be taken accordingly."

WHEAL GRENVILLE has not heard the last of "encroachments." West Frances has a similar claim to that which was made by South Condurrow, but matters in connection with it have remained in abeyance in consequence of the illness of Captain Bishop and the continued indisposition of Captain Josiah Thomas. After recent experience of the uncertainties of the law we should think the Grenville executive will make a strenuous effort to settle the questions at issue by arbitration.

AFTER years of struggling against what at times must have seemed a set of insuperable difficulties, the committee of the Polberro Mine Company appear at last to be within easy distance of getting the reward of perseverance. Recent works have laid open to the eye a fairly wide extent of tin ground, appraised by competent judges at a value that will liberally cover expenses, and even allow, at the present price of tin, a small margin of profit. But the present appearance of the mine is valuable rather as an indication of what may be expected from the future, than for the absolute value lying on the face. The branches and lodes now sufficiently exposed to be traced are all going down upon the Pink lode, where it is held with something more positive than conjecture that they will unite and form splendid mining ground. There is significance about the fact that the deeper into the mine the more valuable becomes the ground. When, in conjunction with this, it is remembered that the deeper workings in the mine are all before the company, it does not appear to be over-sanguine to anticipate a career of prosperity before Polberro. The present condition of the mine must be a great satisfaction to the committee, who have worked hard in the interests of the company, and especially to Mr. J. B. Reynolds, who has been so closely identified with its career from the beginning.

THE CALEDONIAN GOLD MINING COMPANY, LIMITED.

White Feather District, Coolgardie Gold Fields, Western Australia.

THIS company's mining lease, No. C 701, consists of about 12 acres, known as the "Caledonian Mine," situate at White Feather, Coolgardie, Western Australia, in the same locality as the property owned by the White Feather Reward Claim (Limited), from which they are only separated by three claims, including the Golden Eagle property, recently acquired by the West Australian Gold Fields (Limited). The property has been inspected by Dr. C. Chewings, F.R.G.S., F.G.S., &c., and Captain James Christie, upon whose reports the property is acquired. The following is an extract from the *Times* of the 14th November, 1894, on the White Feather district:—"At White Feather and Hannan's there appear to be more mines carrying really good gold than in any other places, though there are not anything approaching the total number of leases worked at Coolgardie." The following is from "The Goldfields of Western Australia" (second edition, page 31), on the White Feather district:—"Whereas many of the gold-yielding properties of that part of the colony are irregular deposits, the reputation of the White Feather district has been established by the striking characteristics of this one remarkable lode, which has the well-defined walls, regular dip, and other favourable features of true fissure, and which has been clearly traced on a regular course, running in a north-east to south-west direction for a distance of 2½ miles.

EXTRACT FROM THE REPORT OF DR. C. CHEWINGS, F.R.G.S., F.G.S., &c.

I proceeded to the White Feather and inspected the Gold Claim, No. C. 701, now known as the Caledonian. The block contains 12 acres, that is to say, 15½ chains by 7⅝ chains, the 15½ lying along the lines of reef. It is situated north-west of Camel Flat, rather less than one mile. (Camel Flat is the spot from which gold is being obtained from a quartz breccia by crushing and washing, or dry blowing.) On this flat salt water was struck a few days since in a well at (say) 120 feet. I am of opinion that on the south-eastern end of the above claim salt water can also be procured at from 100 to 150 feet.

The Caledonian is one of six or seven claims that have recently been discovered. Adjoining it on the south-east is the Nemesis, No. 390. On the north-east is Douglas, No. 378, and Symes' Block, Micklejohn's lying close by. (This latter property was sold quite recently, and it is reported to be one of the best properties on the field.) On the north-west it is bounded in part by the Golconda, and a little farther to the north-west lies the Ballarat. Gold-bearing leaders which were followed by some 40 feet near the surface. I believe, where they junctioned with a vertical reef, 5 feet through, carrying good gold. I saw leaders on the Golconda, close to the north-western boundary of the Caledonian, and was told they were auriferous. Between the Nemesis and the Caledonian a shallow valley runs to the north-east; this was worked for and yielded, I was told, good rough alluvial gold. Good judgment was exercised in the pegging out of the claim, and it contains within its boundaries all that the surface indications would point to as of value. The top of the ridge runs lengthwise through the middle of the claim. On either side of the ridge the rock is, as already stated, of conglomerate. What I take to be the Main Reef, runs lengthwise through the centre of the property. Some two chains from the north-western corner, and roughly two chains from the western, and one chain from the northern boundary, a vertical quartz reef 10 inches through. It is close to this spot where the Golconda gold-bearing stone is seen. The reef strikes north-west and south-east. By the dip it would appear to have no connection with the Golconda leaders, but, being so close, this may be possible. A sample taken from the quartz and casing assayed by Messrs. Edwards, Smith, and Henderson (1) gave gold 0 9·13 ounces per ton. Lying between the two quartz veins now noted as existing on the property, and situated not distant from the first, is a quartz reef that can be traced for a good way—1250 yards—through the property by the loose quartz on the surface. The vein dips east some 15 feet from the horizontal, striking north-west and south-east. The quartz carried galena; hematite, and other oxides of iron occur in the veins, similar to the veins already described. I myself dug out quartz from the vein, and also cracked from a small heap of the same stone close by, and found coarse gold freely distributed through the stone. It would pay to dolly and dry blow, as would the casing. I took several pounds weight of the gold-bearing quartz and picked out every piece showing gold, and sent the balance for assay to Messrs. Edwards, Smith, and Henderson, and the result was 4·10·6 ozs. per ton. There is good reason to believe, not only from the favourable way the adjacent claims are opening up, but also by what may now be seen, that the Caledonian will prove to be a very valuable property.

The property has also been reported upon by Captain James Christie, practical mining expert, who states as follows:—

I have the honour to report for your information that I have commenced sinking on Reef No. 2, and will open up 3 and 4 later on. As you are aware, the position of the property is second to none, being a continuation of the Ballarat and Golconda lines of reefs, and also adjoining Doyles, and in close proximity to Micklejohn's and the Nemesis, which are all first-class properties, and from the appearance of the stone, as also the country through which the reefs traverse, sandstone, slate, conglomerates, &c., I have every reason to believe that as depth is attained the different reefs will develop heavy gold, with large bodies of stone, as in the case of the reef mentioned above. Herewith I forward you specimen of quartz from a leader and reef, in which you will find coarse gold showing. I have every confidence that the property will become equally rich as the adjoining ones when a little more has been done.

The quartz, in which no gold was visible, taken from the property of Dr. Chewings, was assayed by C. W. Edwards, late assayer to the Commercial Bank of Australia and the Colonial Bank of Australasia, as follows:—"Coolgardie, November 15, 1894: Stone taken from surface of leader proved to be very rich and kindly looking, going 28 ounces 15 dwts. 4 grains gold to the ton. No. 2 quartz reef returned 6 ounces 4 dwts. gold per ton. No. 3 quartz reef 5 ounces 9 dwts. 6 grains gold per ton."

The directors desire to draw special attention to the following points:—(1) That this property is situated in one of the richest districts of Western Australia. (2) That it is adjacent to the Golden Eagle Claims, Bissenberger, White Feather Reward Claim; the shares in the latter stand at a considerable premium.

The shares close to-night at 2s. 3d.-2s. 9d.

COMPANY FINANCE.

Reports, Balance Sheets, Dividends, &c., of Mining and other Companies.

White Feather Reward Claim.

The following circular has been issued to the shareholders:—"I beg to hand you herewith notice of first call, which the directors have deferred making until now, so as to leave the uncalled capital at your disposal until such time as it was absolutely required for the purposes of the company. The money is now required for the payment of the machinery which has been delivered at the mine, and which is now being erected under the superintendence of the engineer recommended by the manufacturers—Messrs. Martin, of Adelaide. The following information has been obtained from recent letters and reports, the latest being dated March 2, 1895—viz.:—No. 1 shaft. This shaft has been sunk to a depth of 162 feet, when sinking had to be abandoned on account of the quantity of water—viz., 14 feet. The reef, which is nearly vertical, is in some places over 9 feet, and at the bottom 5 feet 6 inches wide. There are now 374 tons at grass.—No. 2 shaft. This shaft, which has been sunk to a depth of 97 feet, shows a reef 2 feet 9 inches wide at the south end, and 2 feet wide at the north end. The stone is reported as looking very well. There are now about 125 tons at grass.—No. 3 shaft. This shaft has been sunk to a depth of 31 feet, the reef varying in width from 6 to 8 feet. About 30 tons of stone have been raised.—Air shaft. This shaft has been started on the reef opposite the main shaft, and has been sunk 65 feet from brace. Reef in bottom at the south end is 2 feet wide, but has broke up at the north end, though is making again in hanging wall. The stone raised amounts to about 91 tons.—Main working shaft. This shaft has been sunk to a depth of 166 feet, at which depth water has been met with, and is reported to be making very strong. A leader about 6 inches thick has been struck at the bottom of the shaft. A cablegram received on the 19th ult. states that a drive has been made at 100 feet from the main shaft, which has cut the lode at that depth. The lode is stated to be 2 feet 3 inches wide, carrying gold. This level will be connected with No. 1 and No. 2 shafts, which will have the effect both of ventilating the mine and at the same time opening up a large quantity of ore. It is intended to sink the shaft to a depth of 300 feet, but as water has come in this cannot be done until the pumping machinery has been erected.—Four-acre lease. The four-acre lease is situated at some little distance from the Reward Claim (as will be seen from the plan of the property which accompanied the notice of the statutory meeting issued on January 16 last), and as it is not convenient to work claims separated from one another, the directors have entered into a provisional contract for the sale of this four-acre lease to another company. Two men are still engaged in stripping leaders, and are getting a little gold.—Machinery. The directors have pleasure in informing you that the last of the machinery, which consists of a complete 10-stamp battery, with engine power sufficient to drive 20 stamps, and also complete pumping and hoisting machinery, was on 21st of February last delivered at Fremantle, and that it has probably long ere now reached the mine. The plant, the directors are advised, is considered by those well competent to judge, the most complete which has ever yet been erected at the Coolgardie gold field, an opinion which has just been confirmed by the company's agent, who says:—'It is bound to take some time to erect an elaborate plant like the one for this mine, which will certainly be the best on the field.' It is hoped, however, that under the personal direction of the engineer, who has been engaged by the makers of the machinery to superintend its erection, the whole of the plant will be in working order, and ready to commence to crush by the end of May.—Golden Eagle claim. It is satisfactory to learn that on the Golden Eagle property, which has been recently acquired by this company, water has been discovered in large quantities, so that there does not appear any probability of running short of water.—Generally. It is very gratifying to the directors to be able to state that the company's agent reports that:—'The mine is being opened up in the most workmanlike manner of any mine I have seen out here, and great credit is due to Mr. Backhouse for the systematic way he has had everything laid out.' In conclusion, the directors take this opportunity of congratulating the shareholders of the company on the very encouraging prospects and satisfactory position of affairs at the mine."

The following additional circular has been issued:—"Possibly you will have seen in the mining articles of the *Financial Times*, of April 30th and May 3rd, a statement to the effect that adverse reports are in circulation regarding the property of this company. The report in question was repeated to me on the evening of the 30th April, by a member of the London Stock Exchange, to whom I replied that the report was absolutely unfounded, for I had at four o'clock on the same afternoon received the following cablegram:—'Backhouse wires, have returned from White Feather; work is being pushed ahead. Most (of the) machinery received and in course of erection.' In order, however to put the matter thoroughly to the test, I at once dispatched the following cablegram to the company's agents:—'News agency spreading report that the White Feather veins are pinching out; communicate with Backhouse and reply by wire at once.' And to this I received the following reply:—'Refer to your cable of the 30th. Backhouse wires: White Feather.—You can contradict the report it is quite unfounded. South shaft at 165 feet the width of the reef is 5 feet 6 inches; two chains north on the 100 feet level, the width of the reef is 2 feet 3 inches; two chains further north on the 90 feet level, the width of the reef is 18 inches. On all levels there is every appearance of reef continuing strong and permanent; no indication that the vein is pinching out. The average width of the quartz is 3 feet 6 inches.'" The love needs no comment.—Yours faithfully, Allen H. P Stoneham, manager and secretary.

Mason and Barry (Limited).

The directors' annual report for 1894 states:—"The total quantity of ore broken and raised at the mine during the year 1894 was 196,922 tons, as against 202,814 tons in 1893, and the shipments during the same period (inclusive of ore from the cementation works) amounted to 242,386 tons, as against 172,376 tons in the previous year. The quality of ore sold and invoiced for its sulphur value during 1894 amounted to 233,729 tons, as against 182,909 tons in 1893. The average price of G.M. copper (including Chili bars) during 1894 was £40 4s. 6d., as against £43 16s. in 1893, £45 1½s. in 1892, and £51 8s. in 1891. After writing off in the mine books for depreciation of works, plant, &c., the sum of £10,763, and allowing for the variation in the estimated value of the stocks on hand in this country on the Continent, and in Portugal on December 31, 1894, and, after deducting management expenses and income-tax, the net profits on working account have amounted to the sum of £12,283 10s. 3d., to which has to be added the sum of £9754 15s. 8d. received as dividend on La Sabina shares, and the sum of £7456 5s. 11d. from sundries, making together a total profit for the year of £29,494 11s. 10d. The stocks of ore and copper precipitate broken, raised, and on hand December 31, 1894 (inclusive of the stocks at the Wallsend Works), are valued at £347,343. Compared with the two previous years the figures stand as follows:—

	1892.	1893.	1894.
Estimated value of stocks in England (exclusive of stocks at Wallsend Works) and on the Continent	£81,610	£28,391	£51,849
Estimated value of stocks in Portugal:—			
Balance of cost of ore at cementation works	382,743	312,250	254,637
Ore ready for shipment	3,661	6,584	13,407
Copper precipitate	31,435	39,265	27,450
	£480,449	£386,470	£347,343

The stocks at the Wallsend Works are shown by the balance-sheet as valued at £3691 on December 31 last, as against £8242 on December 31, 1893. The mine assets in Portugal (after writing off for depreciation) stood at December 31, 1894, at £567,124. The profit realised on the year's working amounts to £29,494 11s. 10d., to which has to be added the balance, £2476 16s. 9d., brought forward from the year 1893, making together the sum of £32,241 8s. 7d., less sundries, £943 13s. 7d., and the directors having written the sum of £4500 off La Sabina shares, there remains a balance for appropriation of £26,797 15s. From this balance the directors recommend the payment of a dividend of 2s. 6d. per share, and to carry forward the sum of £3651 5s. to the next account."

Alexandra Estate and Gold Mining Company.

The report for the half-year to February 28 states:—"As indicated in the last half-yearly report, ended August, 1894, your directors employed a prospector for the purpose of locating and demonstrating the value of the Baumann and other reefs, which had recently been exposed on neighbouring properties. The work undertaken, however, gave little encouragement, upon which it was decided to discontinue prospecting operations. During the half-year 130,273 trees had been planted, giving a total of 403,000 trees on your property. Your profit and loss account stands debited with £15,773 17s. 7d., which shows an increase of £5,458 18s. 10d. over that of the previous half-year. This is due to your board resolving to write off the total amount standing against prospecting account. Some of your company's investments stand in to-day's valuations at a profit; they, however, remain in your books at cost."

Premier Concessions of Mozambique.

In giving notice of call, payable on the 15th prox., upon all members holding shares which are only 15s. called, the directors state that all the arrangements made at the extraordinary general meeting held on the 4th February have been carried out. Mr. T. H. North, in accordance with his undertaking, has provided funds for paying-off the petition, dismissing the Receiver, and paying the rent of farms in arrear. The company is now free from financial embarrassment. The subsidiary company agreed to be formed has been registered under the title of "The Mozambique Reefs (Limited)," with a capital of £50,000 in 5s. shares. After the provision of £15,000 working capital for the Mozambique Reefs (Limited), the balance of shares, less expenses, comes to this company.

Transvaal Gold Exploration and Land Company.

The secretary writes:—"With regard to the observations made by the Chairman at the general meeting of the shareholders, held on January 24 last relative to the leasing of the mining rights over that portion of the company's property known as Jubilee Hill, advices have been received by cable from our general manager intimating that a company has been registered at Pretoria, with a capital of £85,000, of which this company is to receive £25,000 in cash and shares, 10,000 shares being held in reserve."

Bechuanaland Trading Association.

The directors of this association have resolved to pay an interim dividend of 10 per cent., free of income-tax, for the year ending 31st March.

— The RAND COLLIERIES (LIMITED) has been formed to acquire the Farm Witpoort, of over 2000 morgen in extent, adjoining the Brakpan Collieries of the Transvaal Coal Trust, and upon it at various points good coal has been proved. The capital is £150,000, of which £25,000 is to be retained for working capital, and 25,000 shares are held in reserve, the shares having been subscribed for at par. This flotation has for its sponsor Mr. H. Freeman Cohen, of the Johannesburg and East African Syndicate (Limited). It is intended to commence operations forthwith.

— The RAND-KLIPFONTEIN COMPANY (LIMITED) has been formed with a capital of £65,000. Of this amount £40,000 will constitute the purchase price, £10,000 will be used to provide working capital, and £15,000 will be held in reserve. The property comprises half of the unproclaimed farm of Klipfontein, adjoining Modderfontein, hitherto owned by the Woodhouse Syndicate. The ground lies near the Amatola Block.

— The directors of the DE LAMAR MINING COMPANY (LIMITED) state that dividend warrants for the 16th dividend of 1s. per share, and a bonus of 6d. per share, have been posted to all shareholders registered on the company's books on the 30th March.

— The MOODIE'S FORTUNA GOLD MINING COMPANY has opened a transfer office at 23, College-hill, Cannon-street, E.C., the London committee being:—Messrs. J. Leach Barrett, Henry Pullman, John R. Clipperton, and the secretary, J. T. Somervail.

— The directors of the ALADDIN'S LAMP GOLD MINING COMPANY on Wednesday declared a further interim dividend of 1s. per share, free of income tax, to be paid on the 16th May. The transfer-books will be closed from the 8th to the 16th May inclusive.

— The board of the CHEQUE BANK has declared an interim dividend at the rate of 15 per cent. per annum, free of income-tax, on both ordinary and founders' shares, payable on May 15. The transfer-books will be closed from May 9 to May 15, inclusive.

— The directors of the ANGLO-FRENCH GOLD MINING SYNDICATE have declared an interim dividend of 50 per cent. on the capital stock of the company, making a total of 120 per cent. paid in dividends during the present year. The syndicate are the owners of 32 mining claims adjoining the property originally acquired by the Nigel Extension (Limited), in which company they are largely interested. They also hold shares in several mining enterprises.

— The directors of the CONSOLIDATED GOLD FIELDS OF SOUTH AFRICA (LIMITED) announce the payment, on the 31st inst., of an interim dividend on the company's ordinary shares at the rate of 50 per cent. per annum for the half-year ending December 31, 1894. The transfer books of the ordinary shares will be closed from the 6th to 18th inst. inclusive.

THE GREAT DE KAAP (MOODIE'S) GOLD FIELD, LIMITED.

Capital £200,000, in Shares of 5s. each.—Working capital £25,000.

THIS company's property comprises about 500 acres and the entire mining rights over the area on Moodie's Concession known as the Intab Nye Pele, Alexander's, and Rigi claims. The property is situated about 4 miles west of Barberton, in the De Kaap district of the Transvaal Republic, and is surrounded by some of the best gold-producing Barberton Mines—namely, the United Pioneer, Alpine, Central, Lester, Ivy Reef, and several other working and paying mines. The claims are held from Moodie's Gold Mining and Exploration Company (Limited), under the usual terms, and are registered according to the gold law of the country, at the Mining Commissioner's Office at Barberton.

The property was surveyed by Charles J. Alford, Esq., F.G.S., who, in his report, says:—

> The property is situated on the Moodie's Concession, about 4 miles west of the township of Barberton, on the northern slopes of the "Makongwa Mountain Range overlooking the De Kaap Valley. On the west are the United Pioneer, Ivy Reef, and Golden Hill Mines, and on the east the Great Scott and St. Bernard. The area of the property is about 500 acres, having a length on the line of strike of the formation of some 2500 yards.

Water.

In the De Kaap Valley runs the Queen's river, carrying a considerable body of water all the year round, with facilities for obtaining sufficient head in a short distance. On this river the present owners of this property have a water-right sufficient for the establishment of an adequate mill.

Mr. Alford further reports:—

> As I have stated in my report, the ground consists of longitudinal bars or belts of hard quartzite and soft slatey rocks in between. This hard quartzite carries gold to a large extent almost throughout, and it is one of those that the Sheba Mine is working, I am not prepared now to say which. If you turn to this section, you will see that I map those three quartzite bars. When I was on the spot I did know the one that went to the Sheba, but at the present moment I have forgotten. I numbered those bars, and made a careful geological survey of the whole country. However, one of those bars is the one that extends right at the back of Barberton to the Sheba, and for a long distance, and is traceable for about 40 miles. It is a great fallacy to think that these quartzite bars are like mineral veins or reefs—they are not; they do carry a trace of gold perhaps throughout, but they develop gold in ore shoots or zones. They are just what I expected to find. What I expected to find in working was something analogous to the Sheba. The Sheba is worked on one of these great quartzite bars, and in it there are fans or five shoots of ore which run down in this direction. If you take my fingers to represent the ore shoots running down in the quartzite bars, you will find places in the rock which run up to 3 or 4 ounces. Of course, at the top of the Sheba it was infinitely richer in the exposed part; but down below, it does that; and between those it is much poorer. I thought we should find the same thing in this, and that was the reason I was anxious to advise you to drive on right upon those bars, and when you have got into the bars to explore, and see if you cannot find in those the same rich ore shoots. It seems that the driving has all been commenced exactly according to my advice, but it does not seem to have been carried on quite far enough in any case. I do not see that you have yet struck any one of the bars. That is one set of deposit, and I should strongly advise that the driving be carried on to prospect those. The second thing we will take is what is known as the Pioneer reef. That is not a quartzite bar, but an interbedded quartz deposit, or rather whitish quartz, and in that also there are ore shoots which run up very rich, whilst the mass of the deposit is comparatively poor. In the Pioneer Mine there are just the same kind of ore shoots that I was describing in the Sheba Mine. They run up to a great many ounces in the ton, to 10 or 12 in places, while the rock between them does not contain anything. You have driven 400 feet, and you have now got 150 feet to drive to get at that; so that the prospecting does not yet seem to have reached them. Now to deal with the conglomerate mass. There is a great mass of this conglomerate lying there on the side of the hill, and I am very glad to hear such good reports of it, and that such good results have been obtained.

"The lode, or rather upturned bed, which it is proposed to work at once, is an enormous mass of quartzite, varying in width from 60 to 250 feet, and running east and west right through the six claims. It rises from the level of the valley, at the western end, in the form of a ridge, with an average thickness of at least 100 feet, and running backwards and upwards to a height of 1200 feet. On both sides, north and south, lie two deep gullies, leaving this centre ridge standing boldly out in such manner that the whole mass of it, down to the creek level, may be easily and cheaply mined in the form of an open quarry. Some idea of its immensity may be obtained by calculating its average cubic measurement, as far as it has been exposed by Nature herself—that is, down to the creek level. The approximate measurements then will be; 100 feet wide by 500 feet high by 900 feet long. This gives a total of 45 million cubic feet, and this reckoned at 15 cubic feet per ton, gives 3,000,000 tons of ore. It would, therefore, require 50 years, crushing at the rate of 200 tons a day, to reduce this mass of ore to the creek level. Work has been done at three different points: By open-cut working just above the creek at the western end of it; again high up the hill towards the eastern boundary of the claims and also between these points by an adit driven 60 feet through the solid mass, about 70 feet below the top of the cliff. A trial crushing of 50 tons of this conglomerate or banket has been worked; such not being selected, but taken from the dump, and yielded 8 dwts. of gold from the mills and 2 dwts. from the tailings, or 10 dwts. in all. A greater yield, according to Mr. Alford's opinion, would have been obtained if more modern machinery had been used."

Numerous samples have been taken from all the different workings, and have been assayed by various competent people, the following being some of the results obtained—viz.:—Herbert T. Marks, Government assayer, Barberton, 12 dwts. 18 grains; Percy C. Looker, F.C.S., Barberton, 11 dwts. 12 grains; T. R. Thorpe, assayer to the Robinson Gold Mining Company, Johannesburg, 16 dwts.; the Gold Recovery Company, Johannesburg, 13 dwts. 17 grains; Johnson and Matthey, Government assayers, London, 11 dwts. 12 grains.

In addition to the valuable water-right on the Queen's river, two streams of water, of sufficient volume and fall to drive 30 horse-power, run through the property, besides which it is proposed to obtain all necessary power by electrical transmission, at a moderate charge, from Moodie's Company, who have installed a large electric plant on the Queen's river for the purpose of generating power and supplying it to their tenants. It is proposed to contract, in the first instance, for a supply of a sufficient amount of this electrically-transmitted power instead of making immediate use of the water-right.

The 5s. shares of the United Pioneer and United Ivy Reef, both which properties are adjacent to the Great De Kaap, are quoted to-night at 2s. 6d., 3s.

REDUCTION OF DURHAM MINERS' WAGES.—At a meeting of the Durham Coalowners' and Miners' Conciliation Board at Newcastle held on Wednesday, to consider the dispute regarding wages, Lord Davey (the umpire) decided to order a reduction of miners' wages of 7½ per cent.

MR. RICHARD J. MIDDLETON, F.G.S.E., A.M.N.E., Inst. M.M.E., &c., has opened a Mining Agency at Broad-street House, E.C., where he will be prepared to negotiate the sale of mining and land properties, and conduct generally the business of a Mining Agency. He will also act as the London representative of an influential Australian syndicate. Mr. Middleton will still retain his proprietary interest in *The Mining Journal*, as held by the late Mr. Richard Middleton co-founder of this Journal in 1835.

MINING & MILLING AT THE MESQUITAL DEL ORO GOLD MINE.

(STATE OF ZACATECAS, MEXICO).*

By ARTHUR C. CLAUDET.

Mining—Situation.

THE Mesquital del Oro Mines are situated in the most southern part of the State of Zacatecas, 190 miles to the south-west of the City of Zacatecas, and 70 miles north of Guadalajara, the capital of the State of Jalisco. The City of Juchipila is about 38 miles to the north-east. The exact geographical position of the mines is longitude 103·66° west of Greenwich, and latitude 21·33° north. The nearest railway is the branch of the Mexican Central, terminating at Guadalajara, from which place, however, there is only a mule track to the mines, and all heavy machinery has accordingly to be transported by wagon from Zacatecas, whence a fairly good road now exists all the way to the mines, although the last part is very steep, the descent being 4000 feet in six miles.

The mines are on the southern slope of the very precipitous range of mountains known as the Sierra Morones, which is cut up by numerous deep ravines and small valleys, the latter being cultivated to a great extent by the natives. The River Mesquital flowing at the base of the mountains, water is plentiful, and corn, cotton, tobacco, and sugar are produced; also fruits, such as oranges, bananas, &c., are abundant. There is plenty of timber all over the hills, such as pine, oak, cedar, &c., and consequently fuel for steam purposes is cheap.

History of the Mines.

The history of the mines is interesting, and the following is a summary of various reports from Mexico, and of information derived from the archives at Seville. The mines were formerly in the possession of Baron Guillermo Caserta Daenens Stuard, Baron of Santa Cruz of San Carlos, a former Governor of Guadalajara, who, in the War of Independence in 1810, was obliged to hide himself from his persecutors; and, in order not to reveal the riches of his mines, he had all the timbers and ladders removed, with the result that the mine gradually became filled up by falls of rock. Probably long before the days of the Baron Caserta the mines were worked by the Indians, as the old excavations and workings are of great extent, and were carried on without any apparent method or skill, the upper part of the mine containing huge caverns or chambers which extend to a considerable depth, and are frequently now a source of danger. At the present 137 level old workings were discovered, as also old ladders and various mining implements of ancient origin.

Formation, &c.

The country rock is red porphyry, the lode being a kind of quartz conglomerate, very variable in physical structure, and contains a considerable quantity of ferruginous clay, with here and there small quantities of carbonate of copper, and occasionally crystals of micaceous iron ore.

Old Workings.

All along the outcrop of the main vein there are numerous old and abandoned workings of considerable extent, testifying to the fact that in years gone by the mines must have been very productive. There can be little doubt, however, that the reports of former riches of the mines were much exaggerated, as is shown by the production during the period this company has worked them. When operations were commenced—ten years ago—the work of the former owners consisted of the Socavon and Descubridora tunnels, giving access to the mine (Socavon being the lower, and forming an adit 5 feet wide by 5½ feet high and 815 feet long, from the side of the hill to the brace of Briones); Briones shaft, sunk from the end of this tunnel to a depth of 160 feet, and extending from it were the Populo levels (driven 30 feet east and 120 feet west), the 85 feet levels (169 feet east and 116 feet west), and the 137 feet levels (114 feet east and 242 feet west). At the western extremity of the 137 feet level were excavations known as the "Planes del Baron," traditionally supposed to be of immense richness, but nothing of particular value has been found standing anywhere in the immediate vicinity. The ore taken from the bottom of Briones shaft at that depth averaged about 25 dwts. per ton.

Early Developments.

The company immediately continued the driving of the 85 and 137 feet levels and the sinking of Briones, and very shortly commenced the driving of San Miguel tunnel, which was designed to cut the lode at the lowest possible point, and to form the main ore and water outlet from the mine. Some two years later a commencement was made with the sinking of Saus shaft, some 350 feet to the east of Briones on the strike of the lode; this shaft, unlike Briones, commencing in the open at an altitude of 145 feet above the top of Briones, and near the entrance of the old Descubridora tunnel. The ore from this shaft had at first to be taken on mule-back from Saus to the dumping ground at the mouth of Socavon, until, as a more economical means of dealing with it, and the ore from the workings projected from Saus, the Acerada tunnel was driven from a point in Socavon 75 feet short of Briones to intersect the lode eastwards at a point reached by the Descubridora tunnel from the opposite direction. After striking the lode, the Acerada was driven on it to Saus shaft, thus giving direct communication with the Socavon dump.

San Miguel Tunnel.

Entering the foot of the hill close to the Mesquital river, 20 feet above water level, the San Miguel tunnel extends a distance of 2280 feet, rising 1 in 128, and cuts the lode at Briones shaft at an angle of 83°, some 38 feet above water level. The point of intersection is 300 feet below the brace of Briones shaft, and the inner extremity of Socavon tunnel above referred to. The section of the San Miguel tunnel averages a width of 7 feet, and a height of 8 feet, leaving in the clear between the timbers about 5 feet by 6 feet. There is only a single line of rails throughout the tunnel, but a siding half-way along to adit of wagons passing.

The time occupied in driving the tunnel was, with slight hindrances, four years, the average drivage per working week being 11½ feet, and the average cost $11·11 per foot, or a total cost of $25,350.

No ore deposits of any value were met with during driving, and and the flow of water from the tunnel at that time was estimated at 1½ gallon per minute; this, of course, much increased when communication was effected with the mine.

System of Mining.

The usual system of laying out mine workings has been followed in this mine with respect to levels, winzes, and stopes. The upper levels (those above San Miguel) were projected at intervals of 50 feet, but below the adit level the distance has been increased to 80 feet, as it is found more economical to stope the ore in larger blocks. The winzes are sunk at intervals of 100 feet, thus giving a stoping block of 80 feet by 100 feet. The stopes are all worked underhand.

Tramming.

Tramming is effected in the usual way, the ore being wheeled or trammed alone the respective levels, and shot from above or hauled from below to San Miguel level, and thence trammed to Briones shaft and through the tunnel to the mill, the distance being about 2300 feet in the tunnel and 3000 feet in the open—a little over a mile in all—but being down grade all the way, no power is required, the cars being simply braked down to the mill and hauled back empty by hand. The cars contain about 1 ton of ore each, and, therefore, make about 100 journeys per day.

San Carlos.

A certain amount of work has been done in the San Carlos claim, to the west of the main mine, on what is supposed to be the main vein. Two shafts were sunk to a depth of 100 feet, and connected by a level 220 feet in length. This level was further extended west a distance of 200 feet, and the western shaft was continued to a total depth of 232 feet, where a crosscut was made to the lode and another level opened; but although some 400 tons of ore of fair value were extracted from these workings, the lode finally pinched to such small dimensions that further development was suspended indefinitely. A peculiarity of this ore was the presence in it of a larger proportion of silver than is found in the Veta Madre, but even here the quantity was not sufficient to make the treatment of the ore for silver as well as gold a paying operation.

Description of the Lode.

The strike of the main vein, known as the Veta Madre or Cuervos lode, is north 70° east, and the dip a little south; from Socavon to the 137 it is almost vertical, and below this the inclination is but slight. There are various other veins to the south having a northerly dip of from 41° to 70°, and are evidently feeders of the Veta Madre.

The matrix of the lode is hard quartz with shoots of ferruginous clay, and occasionally rich shoots of ore, giving several ounces to the ton, have been met with; but these do not continue to any great extent. The ore is worth, roughly, about 10 dwts. per ton of 2000 lbs., but latterly the value has somewhat diminished owing to no rich shoots having been encountered. The clayey nature of the ore precluding any selection by the eye, the whole of the ore from the levels and stopes has to be put through the mill, where the clayey matter renders the treatment somewhat difficult.

The walls of the lode are generally well-defined, but at various places the vein bifurcates, and at the San Miguel level there are three distinct branches, all auriferous. It is generally found that the branches unite again at no great distance; but it is remarkable that in this mine the junction of the branches tend rather to impoverish than to enrich the lode. The branches having been found mostly in the lower levels, crosscuts have been driven from some of the upper levels in the hope of intersecting the same branches there, but, at present, without success; and we are forced to the conclusion that also in depth the lode is bifurcated, and will re-unite at a lower depth than we have yet attained.

Generally speaking, the lode may be considered at present too poor for working at the eastern and western extremities of the present furthermost levels, but between these and in depth below San Miguel the average value remains the same. The width of the lode varies greatly—from 15, or even, in some places, 20 feet, down to 1 foot or less—but the general average width may be taken as from 4 to 6 feet.

The reserves of ore are kept approximately at 40,000 tons ahead, equal to a little more than one year's milling, The mineral excavated and delivered at the mill is about 3000 tons per month, but this could be increased at the present time to 3500 tons.

A recent analysis of the ore milled during a considerable period showed its composition to be approximately as follows:—

Silicious rock...	80·80 per cent.
Alumina	9·12 "
Oxide of iron...	6·20 "
Copper...	·06 "
Antimony	traces.
Carbonate of lime	·70 "
Carbonate of magnesia	·25 "
Combined water	2·62 "
	99·75 "
Gold	10 dwts. per ton of 2,000 lbs.
Silver...	16 " " "

The gold varies considerably, rich specimens being often met with; but its average contents are not above 10 dwts. per ton. The gold occurs in both a coarse and fine state, and the ore contains no impurities to prevent a good extraction, and is essentially a free milling ore. Occasional minute patches of carbonates of copper are met with, also small crystals of micaceous iron ore, as mentioned before, but in bulk samples are in small quantities. The chief difficulty is the ferruginous clay, requiring an unusual quantity of water to be used in milling, and probably affecting the intimate contact of the pulp with the amalgamating copper plates. The gold, so far, appears to be in what one may call the natural cleavage of the rock; pieces, on being broken, showing gold, but, when broken again across the cleavage, often showing no gold in the freshly fractured parts. The coarse gold is crumbly, and hence, it is believed, is immediately liberated from the rock when crushed. There are no particular features in the rock to show where one may expect to find gold or not, and the intense colour of the ore, due to the iron-clay, prevents any selection of importance being made. The various specimens show the characteristics of the ore, as also of the "tepitate," or country rock.

The ore, as mentioned before, is, on the whole, a favourable one for ordinary mill amalgamation, being a quartz with ferruginous clay. It is free from sulphurets of any kind, but, being contaminated with this clay (probably resulting from the decomposition of the country rock by natural causes), the treatment in the mill is rendered more difficult than in the case of purely silicious ores.

Milling.

The mill is situated at a point on the River Mesquital, known as Santa Cruz, being 3000 feet below the entrance to San Miguel tunnel and close to the river edge. This position was selected, as all the water used for milling purposes has to be pumped from the river to a high-level tank.

Water.

The water used in the mill amounts to about 14,000 gallons, per day—equal to 625 tons, or say 6 tons of water to the ton of ore—and is pumped direct from the Mesquital river and stored in a tank excavated in the ground on a level with the patio above the crusher floor. During the rainy season—June to September—freshets occur in the river, bringing down large quantities of loose gravel and sand, very often causing choking of the pumps. The water during this time is muddy, but settles pretty well before it is drawn off for the mill. The temperature of the water is often 70° Fahr.

Stamps.

The mill is of the Californian type, built by Messrs. Fraser and Chalmers, and consists of 50 stamps. It possesses all the modern improvements, including automatic feeders and an electric light installation.

Crushers.

There are the usual Blake's crushers, with jaws 10 by 7, and the grizzlies with 2 inch openings.

Engine.

The mill is driven by a Corliss 90 horse-power engine, cylinder 16 by 42 inches, with a Galloway Lancashire boiler and two old twin boilers in reserve, and the fuel used is wood, principally oak. The Galloway boiler supplies steam for the whole mill, including the pumps; the latter are of the Knowles pattern.

Cost of Mill.

The cost of the mill complete, as originally erected in 1889, was as follows:—

Prime cost (freight prepaid to Zacatecas) —	£7,378	
Transport to mine and other charges ...	1,955	
Cost of erection	4,835	
		£14,168

to which must be added the cost of the Galloway boiler purchased two years ago:—

Prime cost, f.o.b. Liverpool	£458	
Freight to mine, &c.	763	
Cost of erection	427	
		£1,738
		£15,906

(TO BE CONTINUED.)

* From a paper read before the Institution of Mining and Metallurgy.

ANSWERS TO CORRESPONDENTS.

Correspondents will please take note that all communications will in future be answered in this column and not through the medium of the post. All questions and replies should be accompanied by the name and address of the writer.

REPLIES.

AURORA.—You are mistaken in supposing that Anglo-French Exploration shares are of the nominal value of £5 each. The capital was increased in November last by the creation of 200,000 new Ordinary shares of £1 each, the existing £5 shares having been previously sub-divided into five of £1 each. This does away with your theory as to the extreme cheapness of the shares. The Aurora has a small capital (£65,000 in £1 shares). The crushing results for 1894 showed a heavy falling-off as compared with the three preceding years, owing in a measure to the stopping of the mill for about a third of the year. The November yield, for example, was only 295 ounces of gold from 1590 tons—hardly a paying result.

OXONIAN.—The report of the Luipaard's Vlei Estate, just issued, deals only with the accounts up to June, 1894. A balance of £2110 is shown to the credit of profit and loss in respect of the year then ended; but, on the other hand, the outlay in developing the mynpacht, less proceeds of gold won, is added to the purchase price; and figures as an asset for the full amount. We are 10 months behind time in attempting to arrive at the position of the company. A general meeting is called for Wednesday next, when doubtless more light will be thrown on the subject.

KING OF KANDY.—The course of the market in Barnato stocks gives colour to the suggestion that there is a constant supply of shares as fresh demand comes forward. Originally these shares were largely held by two or three individuals. It certainly looks as if the insiders were not averse to unloading. It must not be regarded as a disadvantage to the general investor that steps are taken to prevent temporary inflation.

R. S. M.—The points on which you request information are precisely those constituting the mysteries of mining. If they were not necessarily uncertain there would be no speculation, and no fluctuation in price. We think that intrinsic merit is the factor least considered in the present range of prices.

G. S. P.—It looks as though the insiders were taking advantage of the strength of the market to unload.

LAMBDA.—You must claim the dividend from the seller of the shares—or, rather, your broker must do it for you. You bought two days before the shares were quoted ex dividend, although he transfer was not registered until afterwards. The late holder cannot refuse to hand over to you all the rights.

MOWATT.—In the present temper of the market you may as well hold on to all your shares. The Charters Towers lot are certainly worth retaining, as they have not had the advance which South Africans have experienced.

ELECTRIC HAULAGE.—We understand that Messrs. Ernest Scott and Mountain (Limited), Close Works, Newcastle-on-Tyne, have secured the contract from the Hickleton Main Colliery Company, Thorncoe, near Rotherham, for the electric machinery in connection with a large endless rope haulage plant which they are fitting. The dynamo and motor, which are of Messrs. Scott and Mountain's improved type, are each capable of giving an output of 80,000 watts and 90 effective horse-power respectively. The plant is being so arranged that an additional dynamo and motor can be added as the colliery is opened out. The same firm are also busy with their new type of electrical fan, and have fans and motors of this description in hand for H.M.S. *Juno* and *Doris*, and other vessels. These fans are being used in connection with the internal ventilation of the ships, but Messrs. Scott and Mountain have made a considerable number of electrically-driven fans for induced and forced draught.

GOLD EXPLORATION OF WESTERN AUSTRALIA (LIMITED).—The company have opened an office at Wisdoms Chambers, Bayley-street, Coolgardie, Western Australia.

— The annual meeting of the JOHANNESBURG ESTATE COMPANY (LIMITED) will be held at Johannesburg on 20th May.

ROTHERY BLOCK GOLD MINE (LIMITED).—Shareholders can now obtain share certificates in exchange for the banker's receipts at the company's offices, 55 and 56, Bishopsgate-street Within, E.C.

CAN DIAMONDS BE MANUFACTURED?—Professor F. W. Clarke, in an interview relative to the probable manufacture in the near future of diamonds of marketable size, stated that he entertained no doubt whatever on the matter, and that he firmly believed that this will soon be done. Moissan, in Paris, has manufactured diamonds by melting wrought iron together with carbon, and permitting the mixture to cool very slowly. Under these conditions the carbon became crystallised. Simultaneously Kroutschoff, in St. Petersburg, has got diamond crystals by a similar process, employing silver instead of iron. These artificial diamonds are scarcely big enough to be seen with the naked eye, but they represent the solution of the problem of crystallising carbon. So much being accomplished, it may be confidently expected that crystals of greater size will soon be produced. It has been argued that in the laboratory the processes of Nature can only be imitated on a contemptible scale; but crystals of carbon need not be very big in order to possess value as gems. In dealing with the way that diamonds are formed in Nature—for instance, the great diamond field of South Africa—Professor Clarke gave it as his opinion that eruptive matter from deep in the earth bursts out through a surface layer of shale, the latter being very rich in carbon. Slow cooling follows, and the carbon is crystallised out as in the experiments of Moissan and Kroutschoff.

BARROW HEMATITE STEEL COMPANY (LIMITED).—Mr. Jeremiah Head has given his award as arbitrator in the dispute between the general manager of this company and the workmen. The question put to him was: "What reduction (if any) is reasonable or desirable to enable the Barrow Steelworks to be carried on till June 30, any reductions awarded taking effect from March 4." He has come to the conclusion that the reduced rates contained in the wages-sheets attached to the award shall be those payable by the company to their workmen during the period named. The reductions as a whole amount to about 10 per cent. on the previous total labour cost. No less reduction will meet the case, and, in addition, the company will have to cut down salaries, royalties, railway rates, and all other elements of cost as far as they possibly can. The heaviest reductions have been made in the earnings of the most highly-paid men, whilst those whose wages were already low have been but little reduced, and in a few cases have even been advanced. Mr. Head hopes that his award will be accepted loyally, in the belief that it does the best possible under the present difficult circumstances.

GEM OF CUE GOLD MINE (LIMITED).—This most recent venture in the Murchison district, which has already been alluded to in these columns, is shortly to be floated, with a moderate capital, by the Mines Exploitation Syndicate, of 8, Draper's Gardens, E.C. The reefs, we understand, are satisfactorily proved to a fair depth, and the yield is indicated by trial crushing; an independent report has also been obtained, and one-third of the entire capitalisation will be reserved as working capital.

C. PASS & SON (Limited), BRISTOL,
ARE BUYERS OF
LEAD ASHES, SULPHATE OF LEAD, LEAD SLAGS, ANTIMONIAL LEAD, COPPER MATTE, TIN ASHES, &c. and DROSS or ORES containing
TIN, COPPER, LEAD, AND ANTIMONY.

HENRY WIGGIN & CO. (Limited),
NICKEL AND COBALT REFINERS,
MAKERS OF BEST RED LEAD FOR FLINT GLASS MANUFACTURERS,
BIRMINGHAM.

LAMBERT'S WHARFAGE CO.,
PRINCE OF WALES DOCK, SWANSEA.
Ores, Mattes, Regulus, and Bars received and prepared for market. Copper, Lead, Tin, Spelter, and Pig Iron Received, Weighed, and Sampled, and Warrants issued against same.
N B.—Warrants are on Accepted List of London Metal Exchange. Regular lines of steamers from America, Europe, &c.
Consign goods to Lambert's Cranes, Prince of Wales Dock, Swansea.

THE BUTE WORKS SUPPLY COMPANY
133, BUTE DOCKS, CARDIFF.
Telephone: No. 45 (Post Office and National).
Telegrams: Gething, Cardiff.
RAILWAY WAGONS (New and Second-hand) for Cash, Redemption Purchase, or Simple Hire. 50 perfectly new, 50 only 10 months old, and 130 only three years old, all to Latest Regulations. A large number of other Wagons, now on tonnage hire, for Sale. Full particulars on application.
LIME WAGONS.—12 10-tonners, with covered tops, two side doors, and four roof doors, £32 10s. each at Cardiff.
EARTH WAGONS.—75 side and end tipping, 30-inch gauge, new frame, and new tops, steel wheels and steel axles, £5 each, f.o.r. Cardiff.
RAILS.—Bridge, Flange, Double Head, and Bull Head, with or without fastenings.
SLEEPERS.—Wood and Steel for all gauges.
PORTABLE RAILWAY.—£9 18s. 9d. per 100 Yards of Railway, comprising 200 yards of new Steel Rails, 14 lbs. per yard, and 100 Iron Sleepers, 24 inche gauge.
LOCOMOTIVES.—Six wheels coupled, by Manning, Wardle, and Co., 12 inches by 17 inches, now at Cardiff; also six wheels coupled, by Avonside Engine Company, 14 inches by 20 inches, now near Cardiff; also six wheels coupled, by Sharp, Stewart, and Co., 17 inches by 24 inches, now near Cardiff; all recently thoroughly overhauled, and ready for instant work; cheap for cash, or three years' redemption purchase.

PACIFIC MINING AGENCY AND TRUST COMPANY.
A Corporation organised under the Laws of the State of California.
CAPITAL STOCK, £50,000.
BOARD.
IRWIN C. STUMP (Chairman) Manager of the Estate of the late U.S. Senator Hearst.
IRVING M. SCOTT, Manager Union Iron Works.
JACOB H. NEFF, President California Miners' Association.
P. N. LILIENTHAL, Manager Anglo-California Bank (Limited).
W. F. GOAD, Vice-President, Wells, Fargo, and Co.
D. M. BURNS, Capitalist.
R. C. CHAMBERS, Manager Ontario Mine, Utah.
WILLIAM C. RALSTON, Secretary (Secretary California Miners Association).
BANKERS—The ANGLO-CALIFORNIAN BANK (Limited).
HEAD OFFICE — MILLS BUILDING, SAN FRANCISCO, CAL.

THIS COMPANY sells Mines, Mining Claims, Ditch Properties, and Water Rights ON COMMISSION, and will act as Agent and Broker for the Sale and Purchase of such Properties.
It is intended to conduct the Purchase and Sale of Mining Claims, Ditch Properties, and Water Rights on the same basis as a real estate transaction.
The Company is prohibited by its Articles of Incorporation from buying or selling on its own behalf, or except upon commission, or as agent or factor for others.
The buyer pays no fees whatever, and there is no incentive to advance the price beyond the original figures at which the price and commission have been agreed upon with the seller.
It is not intended only to negotiate the sale of an entire property but interests in such may be sold or money obtained for development work.
This Company especially solicits the business of making reports or examinations for non-resident mine owners on any of their mines in the United States, and obtaining special information as to their condition and so forth (said reports being confidential).
Those who conduct the business of the Company have had long experience in mining operations, and it is their intention to place the Company in a position to inspire the confidence of all who seek its assistance in its integrity and fair dealing.
We respectfully refer to any Bank in the City of San Francisco and to the Anglo-Californian Bank (Limited), London, as to the standing of the Board of Directors of this Company.
Descriptions of properties for sale with maps, reports and all necessary information, are left on file in the office of the Company. Abstracts of such reports with prices of mines will be furnished pon application.
California has produced £267,000,000 in gold, and is still producing £2,680,000 a year. There are thousands of claims requiring capital for development. In other Pacific Coast States and Territories there are abundant opportunities for investment in mines of gold, silver, copper, lead, coal, and so forth. Information concerning these will be furnished by this Company on application.
This Company will also furnish competent engineers, superintendents, foremen, miners, millmen, assayers and others connected with the mining industry on application, furnishing their references and so forth.—Cable Address, "CHAPIN," San Francisco.

PRINTING.
We are prepared to Compose, Stereotype, and Print Papers Pamphlets, &c., in the most expeditious manner, and give Special Attention to Printing required on the formation of New Companies, including:
PROSPECTUSES, DIVIDEND WARRANTS,
ANNUAL REPORTS, BALANCE-SHEETS,
DEBENTURE AND SHARE LISTS, &c., &c.
Every kind of Commercial Printing Executed with Dispatch.
ESTIMATES FREE.
"THE MINING JOURNAL,"
16, FINCH LANE, LONDON, E.C.

The Mining Journal,
RAILWAY AND COMMERCIAL GAZETTE:
An Illustrated Record of Mining, Metallurgical, Railway, Financial, Industrial, and Engineering Progress.

ESTABLISHED IN 1835.

THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE, published every SATURDAY MORNING, price SIXPENCE, is recognised throughout the World as being the oldest, most influential, and most widely circulated Journal devoted to the interests which it represents. It circulates
ALL OVER THE WORLD,
Amongst Mine Owners, Capitalists, Investors, Mining, Metallurgical, Railway and Mechanical Engineers, Railway Administrators, Manufacturers, &c., &c.
THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE has correspondents and sources of information in almost every quarter of the globe. Its policy is absolutely independent; its circulation is cosmopolitan; and its literary scop embraces the entire field indicated by its title. The International Exhibition of Mining and Metallurgy, Crystal Palace, 1890, and the Institution of Mining and Metallurgy, London, were initiated and established by the efforts of THE MINING JOURNAL.

TO CORRESPONDENTS.—Letters on Editorial Matters, or containing literary contributions should be addressed to "THE EDITOR." All matter intended for insertion must be written on *one side of the paper only*. The return of rejected manuscripts cannot be guaranteed. The Editor invites correspondence and items of news or information from readers in all parts of the World.
TO SUBSCRIBERS.—The Annual Subscription to THE MINING JOURNAL, including postage to any part of the United Kingdom, is £1 4s. Abroad, £1 8s. payable half-yearly in advance. It can be purchased at all Railway Bookstalls and Newsagents throughout the United Kingdom for 6d.
TO ADVERTISERS.—The following is an abbreviated Scale of Charges for Advertising: — Companies' Prospectuses, £12 12s per column, or £20 per page; Companies' or Legal Announcements, 9d. per line, with a Minimum charge of 7s. 6d; Sales by Auction, Publications, For Sale, Wanted, &c., &c., 3d. per line with a Minimum charge of 4s.
Displayed (Trade) Advertisements of 2 inches in depth (or more), Single Column measure, will be inserted at the following rates:—For 52 insertions 2s. 6d. per insertion for each inch in depth; for 26 insertions 3s. per insertion for each inch in depth; for 13 insertions 3s. 6d. per insertion for each inch in depth. Terms for special positions and contracts may be had on application.
*** ADVERTISEMENTS (which should in all cases be sent direct to THE MANAGER) can now be received for the forthcoming issue of THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE, on FRIDAY, at 16, FINCH LANE, E.C., up till 6 p.m., and at 3, DORSET BUILDINGS, SALISBURY SQUARE, E.C., until 9 p.m.
*** THE MINING JOURNAL, is neither controlled, nor is any interest in it held or exercised, by any mine owner, speculator or syndicate, and it is in no way connected with any share dealing agency. The position occupied and the views expressed by it are alike absolutely independent.

Editorial and Advertisement Offices:
18, FINCH LANE, LONDON, E.C.
Telegraphic and Cablegraphic Address: "TUTWORK, LONDON."
Codes used: "A.B.C.," Moreing's, and "Universal."

CONTENTS

Of this Number of "The Mining Journal, Railway and Commercial Gazette," May 4, 1895.

NEW PATENTS	503
CONTRACTS OPEN	505
THE CYANIDE PROCESS	506
THE ROAD TO COOLGARDIE	506
RECENT IMPROVEMENTS IN AMERICAN METALLURGY	507
MINING NOTES FROM JOHANNESBURG	507
ALLOYS	508
CORRESPONDENCE	508
MEETINGS OF MINING COMPANIES—	
Almada and Tirito, Ottos Kopje	509
Coetzeestroom Estate, Golden Horseshoe, Colon Gold	510
The Great "B" Syndicate, Polberro Mine Company	511
Lindsay's Gold Mines (Limited)	512
PROVINCIAL SHARE MARKETS	512
EL CALLAO GOLD MINING COMPANY	513
MINING IN CORNWALL AND DEVON	513
THE CALEDONIAN GOLD MINING COMPANY (LIMITED)	513
COMPANY FINANCE	514
THE GREAT DE KAAP (MOODIE'S) GOLD FIELD (LIMITED)	514
MINING & MILLING at the MESQUITAL DEL ORO GOLD MINE	515
ANSWERS TO CORRESPONDENTS	515
LEADING ARTICLES—	
Mine Captains	516
The Wemmer Company	517
NOTES AND COMMENTS	517
THE MINING MARKET	518
LATEST FROM THE MINES: Cablegrams and Telegrams	519
THE METAL MARKETS—	
The London Metal Market	519
"THE MINING JOURNAL" SHARE LIST	520-521
REPORTS FROM THE MINES	521
SOUTH AUSTRALIAN LETTER	526
ADVERTISEMENTS—(*See Index to Trade Advertisements, 502a.*).	

LONDON: MAY 4, 1895.

MINING CAPTAINS.

WE have written frequently on recent occasions on subjects connected with the management of mines and mining officials, but, as yet, we have not touched upon the body of men who take unto themselves the above military title. We who are acquainted with Cornwall and Wales, from which districts most of the Captains emanate, know exactly what class of men to expect when we are told that Captain FOOTWALL will show us round the mine; but strangers to the profession are in doubt whether they are to be placed in the charge of a high-stepping military man, or an official of the Salvation Army. It would be difficult to determine the origin of the title Captain as applied to the foremen of mines, and still more so the qualifications necessary for attaining that distinction, for we have found that whether the local manager is the working foreman of a half-dozen men, or the superintendent of a large body of skilled employés, above or below ground, he is alike dubbed with the rank and style of Captain. We are personally acquainted with many first-rate all-round men who are so called, and who are worthy to be entrusted with the development of mines and the erection of mining machinery; but, unfortunately, our experience is not limited to these, but extends to a far larger class of men, who cover the density of their ignorance by an assumption of profound knowledge, and too often betray the position of trust which they hold to the benefit of their own pockets.

There are many ways in which this can be done; and for the benefit of those who are exposed to such fraudulent practices we may mention a few of them, as practised by a Welsh mining Captain, who, at the same time, was a local preacher, with whom we were brought into contact years ago, and who, being dead, can no longer exercise his ingenuity in this direction. One of his methods of increasing his wealth was to charge the men a commission on their pay for giving them a job, the consequence of which was that a large number of useless hands were employed, while a high rate of wage had to be paid in order to cover the commission; or an indifferent class of miner was engaged who could not find employment elsewhere, and who was anxious to get work at any price, and so willing to submit to a deduction being made on his pay. A more glaring offence —and one not infrequently practised—was to enter fictitious names on the pay-sheet, and when pay-day came round to appropriate the whole amount. This, of course, could only be done with respect to men working by the day; and as it needed no confederate, was difficult to find out when a large number of men were employed. For men working on contract, the device was to be very liberal in measuring up the amount done, and split the difference with the contractors, who, in many cases, were relations or friends of the Captain. The danger was that, unless the Captain kept on good terms with his men, these latter would take an opportunity of informing against him, while they could always use their knowledge of his doings as a lever to force him to grant them contracts on advantageous terms. The dealings between the Captain and the local tradesmen, who supply the mine with stores and timber, as well as the vendors of machinery, afford some interesting details, and if they could only be fully investigated would reveal some astonishing facts relative to commissions on the value of the articles supplied, and would disclose the true reasons for dealing with one firm in preference to another.

But it is not only with regard to the accounts that a fraudulent captain can display his ability, but he shines, if anything, more conspicuously when he is called upon to show off a mine to the best advantage, the more especially if he is interested in the sale thereof. The way in which he will construct a pile of ore, with all the best and most showy pieces on the outside, and calmly assure his audience that the whole heap is equally good, is a triumph, in its way, of art and acting, only to be overcome by sampling under the most stringent conditions, or by milling the greater portion. This latter is the safest method even with ores such as those of lead, zinc, or copper, while with those carrying gold it is practically the only way to arrive at the truth. Then, again, underground the visitor is hurried along from one rich portion of the lode to another under the pretext (say) that the roof of the other portion is dangerous, whereas the fact is that the lode is barren at those points. Shafts sunk on barren portions also are uniformly full of water, not because they are barren, for the old, old story is that the lode in the bottom is phenomenally rich, but because it is difficult to examine a shaft under such conditions, and easy to fabricate an excuse for their existence. The discontinuance of work in the end of a level, or the bottom of a shaft, where for the moment the lode is actually rich, or in a stope where the show of ore is good, can be accounted for in a variety of manners, and by means of a series of more or less plausible excuses, which may go down with the unitiated who are unacquainted with the wisdom of the policy of letting well alone and making the best of a good show when you have got it *in situ*, for no one can say when it will give out again, and the last state of that mine be worse than the first, because the currants have, so to speak, been picked out of the loaf.

The temptations placed in the way of the man in charge of an out-of-the-way mine, where he is practically under no control, are often very great. The only way to ensure against his succumbing to them is, in the first place, to take great pains in selecting the man, and then to pay him such a salary as will make him independent, while putting him in a position which he would not lightly sacrifice. It must not be supposed that because a man has acquired by some means or other the title of Captain, and is in charge of a mine, great or small, that he is a universal genius, or an encyclopedia of mining knowledge, for it frequently happens that, whereas locally he is a first-rate man, he has not had those opportunities of seeing and studying the occurrence of metalliferous deposits in other districts, without which his opinion as to their value is unreliable. Nor does it follow that because a man happens to be in charge of a successful mine that therefore he is an expert on all other mines. A mine may, and often does, make the reputation of its manager through its richness, but a manager with all the talents in the world cannot make the reputation of a poor mine; but, on the contrary, he too often finds that his own name is damaged by that of the mine with which he is connected. The introduction of Mining Institutes and Schools of Mines, and the training of young men to the profession of mining engineers is gradually doing away with the the old style of Captain, but the rapid opening-up of new mining districts is apt, as in the case of the Transvaal in 1889-90, to lead to the placing of thoroughly unqualified men in positions of trust, and these men are then asked to write reports upon neighbouring properties, upon the reliability of which public money will be invested. To some extent we see the same thing in operation at the present time in West Australia, and if the public lose their money, they have themselves to blame for it, seeing that in their haste to get rich they often accept as correct the unsupported statements of men whose experience in mining is limited and treacherous.

THE WEMMER COMPANY.

PROBABLY the most conspicuous event on the Stock Exchange this week has been the great rise in Wemmers. The conspicuous attention that has been paid to them has been fully justified by the position of the company. By this week's mail we have received full particulars of the proceedings at the annual general meeting, and the announcements there made exceeded probably the expectations of the most sanguine. Those who were fortunate shareholders in the company must be greatly envied by those who are now rushing madly in, resolved, at all hazards, to participate in the tremendous profits that have been foreshadowed. The profit for the past half-year has been £33,110, equal to about 120 per cent, upon the capital of the company, which stands at the insignificant sum of £55,000. But this is not the true earning for the period in question, as the Chairman explained, for besides the sum of £5700 written off for depreciation, there was, in addition, an item of £23,800 standing in the accounts for the development of ore in the mine, which amount has also been paid out of the profits. Therefore, the company stands in this position—that with a capital of £55,000 only it has its equipment free, its development free, and, in addition, splendid prospects before it. When we take into consideration that all this has been done in six months it is astounding, for it cannot be forgotten that the company started the last half-year with a considerable balance on the wrong side. The following figures will make more clear the remarkable improvement that has been made:—For February, 1894, the yield was 15 dwts., and the profit £8847; for August of the same year it was 13 dwts., with a profit of £10,131; whilst in February of this year the yield jumped up to 19 dwts., and the profit to £33,110. The following are the monthly profits that have been made during the past half-year:—September, 1894, £2445; October, 1894, £2697; November, 1894, £4999; December, 1894, £10,805; January, 1895, £10,692; February, 1895, £8878; March, 1895, £13,482. The details of the latter are interesting. The output for the month was a record one, the figures being as follows:—From mill, 4268·27 ounces of gold; from cyanide works, 1448·88 ounces; and 1050 ounces fine gold contained in the concentrates, making a total of 6767 ounces, the actual value being £23,412.

The profit of £33,110 represents 120 per cent. on the capital of the company, whilst that for March represents nearly 300 per cent., so that it will be seen at a glance what a unique position the company occupies. It starts the new year with available cash—reckoning the liquid assets as available cash—amounting to £5891, after providing for all current liabilities. This was against the balance of indebtedness at the beginning of the half-year of £12,730, the whole of which, of course, has been wiped out. In order to give a just estimate of the company's position, it should be stated that the £20,000 which figure as the cost of the mine also cover the cost of the development claims. The shareholders possess 23 Deep Level claims, and also, in the shape of bewaarplaatsen, an area equal to about 11 claims; whilst if the Volksraad settle the bewaarplaatsen question—as the directors hope it will do—in favour of the surface owners, the Wemmer Company will be in possession of 34 Deep Level claims. The board have authorised the expenditure of about £10,000 on adding 10 stamps to the mill, increasing the capacity of the cyanide vats, and other necessary works. They propose to pay a dividend at the end of June, which they anticipate will be at the rate of 100 per cent. Towards this they start the current half-year with £5891, plus the £13,482 profit for March. During the months of April, May, and June, therefore, the mine must make up the difference in profit in order to pay this, and the manager thinks there is every reason to expect that this will be done.

Naturally, the Chairman could not conclude his speech without referring to one very important point—and that was the life of the mine. The former manager—Mr. JOHNS—came to the conclusion, from data before him, that from the South Reef and the Main Reef leader the Wemmer Mine had a life of eight years; whilst Mr. ABADIE—the present manager—writes on the subject as follows:—"Assuming the life of the Wemmer Mine to be about as stated by Mr. JOHNS, it is my opinion the improvement in the lower levels will somewhat extend the life of your mine. The increase in the width of reef is not confined to any particular portion of the South Reef, but is in evidence, not only in the main shaft, but in all the lower drives and stopes. For the past six months ending March 1st, 1895, the waste as sorted out has averaged 37·57 per cent., 7·43 per cent. less than the percentage taken in calculating and placing the life of the South Reef and Main Reef leader at eight years. From my own experience with the Main Reef, I can say but little as yet. The crosscut now being driven from the 700 feet level will shortly encounter the Main Reef leader, and at a distance of about 70 feet further on strike the Main Reef. At this depth the Main Reef will doubtless be clear of the diabase dyke, and I can see no reason why we should not expect improvement in this reef, as has been the case in the South Reef. Operations in the mine for the past nine months have, in my opinion, prolonged the life of your mine, as estimated August 17, 1894, based on the mine and milling conditions then existing." The Chairman's own views on the subject are also worth reproducing. Speaking to the shareholders, he said:—"They must not lose sight of the fact that the Main Reef had developed into a very important item in connection with this question. They would find that in the report the Main Reef was dealt with, and the assay returns given. They knew now, of course, that improvements were going on in working, and, probably, with the new methods about to be adopted with regard to working, there was every chance that the Main Reef, assaying on one level 11 dwts., on another 13 dwts., and on another 8 or nearly 9 dwts., and showing bodies of ore from 3 feet 4 inches to 5 feet 2 inches in width—that this was a payable proposition. There was nothing to prevent them, estimating very fairly, that with a body of ore like that throughout the mine, it was quite possible that a further 10 years, on a basis of 50 stamps being employed, would be added to the life of the mine. So there need be no concern on the part of shareholders of the Wemmer Company as regards the future of the company." Taking all things into consideration, no one can doubt that this is a magnificent property, that the prospects are not merely excellent, but brilliant, and that the shareholders are, in every way, to be envied. It is, also, further evidence that the boom in South Africa, and the opinions held concerning its vast and permanent wealth, are strongly supported.

NOTES AND COMMENTS.

AN interest altogether surpassing the narrow limits of the register of shareholders has been awakened in the operations of the Kapanga Gold Mining Company. Viewed as an isolated speculation, or, as the more sober-minded of City financiers prefer to say, as an investment, the operations of the company, more especially in the light of recent developments, have been of a highly successful character; but it is in the larger sense of its connection with the general mining prospects and conditions of New Zealand that the past achievements and present workings of the company stand out to demand a close attention. Already their sinkings have gone to a greater depth than any others in the colony, while an additional 1000 feet of boring has been projected and actually commenced for the purpose of testing the underlying reefs and strata. Such a plan of working, drawn up for a mine situated in the Rand, would not call for any especial remark, but when New Zealand is in question the matter assumes a wholly different aspect. An idea has somewhat widely obtained that deep level mining in New Zealand is a thing rather to be left alone than otherwise. It is, perhaps, not too much to say that this view, so far as it obtains, has been formed rather hastily, and without such steady, persistent exploration of the deeper ground as would seem to be the first essential to the full acceptance of such a pessimistic position. The results of the enterprising spirit in which the management of the Kapanga Company are prosecuting their operations will be a valuable contribution towards the available data in connection with the deep mining of the colony. One experiment—whatever its upshot—would certainly not be sufficient to establish the certainly of a wide productiveness or the reverse, but it would do something to dissipate the doubt which until now has involved the question.

THE Golden Horseshoe Mine is well under weigh as a speculative mining enterprise. The property has been transferred, la manager appointed, and an elementary plant put in requisition. Before embarking finally upon the enterprise, a good deal of caution seems to have been exerted by the board. Several reports from distinct and independent sources were arranged for, all agreeing substantially as to the property in view, and affording materials for a favourable judgment, as well as an attractive prospectus. Even at this early stage, when, as the Chairman deplored, the Government insists upon a meeting of the company, without defining its object or agenda, there was a sufficiency of business accomplished to occupy in the narration an extended and not uninteresting, if somewhat prolix, address. The inception of the undertaking appears to have thrown some heavy business on to the shoulders of the directors, and to have given them rather a bustling time of it. If there is any room for criticism in the tone of the Chairman's speech, it lies in the good fault of an over-caution which manifests itself in a tendency to call persistently for reports. It is the fact that up to the present the reports to hand have been of an encouraging character, and have spread the belief that some continuous and valuable reefs exist on the property; but there is something more valuable than reports, and it is to be hoped that the company's executive will be set working with all convenient speed.

THE shareholders in the Colon Gold Mines are unfortunate in owning a property situated in one of the turbulent States of South America. There is a convincing concord amongst mining experts as to the value of the property, if worked in an able and miner-like manner, but for some time the management of the Colon enterprise has been thrown out of working form by a vexing disagreement with the owners of other mines, and the crowning difficulty, which came upon them a short while ago, in the shape of a revolution. Nobody in Europe is surprised or seriously put out when one of the turbulent States south of the Panama plunges into the vortex of an insurrection—unless, indeed, he happen to have financial interests in the particular country affected, in which case, perhaps, he becomes rather apprehensive, not, probably, however, without reflecting that the thing has happened before with no very evil consequences. With the shareholders in the Colon Mines the late Colombian revolution was not only unfortunate in the fact, but peculiarly unhappy in the time. Reconstruction was proceeding satisfactorily when news of the outbreak reached London, and it is not to be wondered at, if, as the result, a number of the shareholders were seized with caution, and refused to take up their interest in the new concern. Still, later developments have been of another and brighter colour. The revolution has been stamped out, more than three-fourths of the capital has been subscribed, and the rest put into negotiation, while the disagreements at issue between the company and other parties in the State are, perhaps, nearer now to adjustment, or at least to finality, than ever before.

THERE would appear to be absolutely no cause for anxiety in the minds of shareholders in the Ottos Kopje Diamond Mines as to the recent breakdowns in their new machinery. As the plucky pioneers in a new path of invention, the company have to suffer for the errors and mistakes arising necessarily from any considerable innovation, and not likely to be at all permanent in their effects. It would be the sheerest presumption to expect a new and elaborate plant to get into working with all the smoothness and precision of a well-tried mill. Either the board have been too sanguine, or they have anticipated the delays which have occurred, and have, in truth, no reason to be surprised at them. The evident disposition of the shareholders at the recent meeting was to take a reasonable and business-like estimate of the situation. Occasionally a few sentences, expressive faintly of "Who's got to be wopped for this?" were dropped, but the experience of several owners of machinery present suggested to them that the delays were in the normal course of things, and, once communicated to the body of the meeting, this rational view found instant acceptance. The Ottos Kopje enterprise seems nearer now to the dividend-paying list than ever before.

COPPER mining seems to have been quite relegated to the background, and no one in these times expects to hear of profits being made and dividends being paid by a company exploiting that metal. In fact, no one seems to dream that there is any part of the world where the industry is worth prosecuting, and doubtless they will be surprised to hear that in South Australia there are two copper companies who are still prosperous, and even with the additional disadvantage to compete against as low grade ore. These are the Wallaroo and Moonta Companies, the directors of which have lately declared dividends of 1s. per share. Of course, this is not a princely sum, but it is better than nothing at all, and is certainly sufficient to encourage them to go on working in the hopes of a rise in the price of the mineral. It might be safely said that this result is due entirely to efficient and intelligent management, which every year has been making the labour-saving appliances on the mines more perfect and extensive. For every ton of dressed ore that goes to the furnaces there are nearly 8 tons extracted from the workings of the mines. The problem before the directors in fact, resolves itself largely into one of the economical dressing of the ore, for, of the 4074 tons of fine copper produced, the quantity of ore raised amounted to about 200,000 tons, so that the actual percentage of copper yielded by the crude stone is no higher than about 2½ per cent.

LAST week we gave some particulars of the formation of a new exploring company, called "The Exploring and Gold Mining Association (Limited)." We understand that it has been formed privately, with a capital of £50,000, for the purpose of searching for, purchasing, or leasing, or joining in the purchasing or leasing of mining properties and concessions in various parts of the world, attention being directed chiefly to the gold and mineral fields of Africa, Australia, and America. We quite approve of the objects of such a concern, for, of course, greater security is thereby offered to the public than if properties were foisted upon them by shady and unprincipled promoters, whose only object is to put money into their own pockets. Here, however, in the case of this new company, we have an influential board and a capable and eminent expert — Mr. A. G. Charleton —who have reputations to sustain, and who may, consequently, be relied upon not to recommend any property unless they themselves are absolutely convinced of its value. Every mine offered to them will be investigated by well-known experts, who will submit their reports to the directors, who will, in their turn, be advised by their consulting engineer, in whose ability they will, of course, place the greatest confidence. It does not follow that even then they will be always successful, but the probabilities are greatly in their favour. At any rate, the new company starts under splendid auspices, and all that lies in our power at present is to wish it every success.

THE *Mining and Scientific Press*, of San Francisco, is greatly indignant with us, and thinks that we are really acting too badly. Of course, we are intensely grieved at having hurt the feelings of our contemporary, but our excuse must be that we really cannot help it. The "head and front" of our offence is that we have been "booming" South Africa when there has not been sufficient justification for it. South Africa, as a gold-producing country, is so insignificant that really it is astonishing that "an old and conservative concern," an "old and influential journal," should be so carried away by its feelings and by the spirit of justice, to say nothing of the spirit of the times. What has South Africa done that it should be so lauded? What has it, indeed? It cannot be that our contemporary is unaware of the increasing wealth of the Rand, of its marvellous monthly outputs, and of the increasing evidence of its wonderful wealth? It may be that out San Francisco way they do not hear of these things; but it is more likely that they have no desire to hear of them. At any rate, no one can accuse us of partiality. Week after week we are bringing before the notice of the public other and promising gold fields, and commenting upon them in an absolutely unbiassed tone. We have exerted ourselves not a little on behalf of California, as our contemporary must be aware, if it will just open both eyes, and look around, as well as in front. The regrettable thing is that we cannot promise to amend; for if we were to look steadily on the Western States of America alone, we should suffer continual discomfort through the disapproval of our conscience.

ONE effect of the recent considerable increase in company business, which lies beyond the view of the ordinary observer, is the addition which has thereby accrued to the Government revenues owing to the much greater use of contract and Government stamps. The large direct benefit to the national coffers arising in this manner from the flotation of new companies, and even in a greater measure from the spread of a wide speculative spirit, causing as it does a much greater frequency of transfer, is more closely dependent on mining than upon other subjects of

Limited Liability enterprise. In other directions—such as in the case of some foreign railroad securities or stocks—the use of shares to bearer considerably decreases the gains of the Exchequer. It is in the mining market where shares have to be transferred formally from seller to buyer, and where, consequently, the Government realise ½ per cent. on their value, that the greatest Governmental gains are realised. Figures, which show not only the grand *coups* made occasionally by the revenue but also the marvellous magnitude of business transacted by certain houses, are quoted to the effect that one firm alone paid £20,000 for transfer stamps, and that in a very brief period.

A DECIDED improvement appears to have set in with May in several branches of trade. Some of the leading English hardware merchants are busy until 10 and 11 at night upon foreign orders, and they describe recent mails from Australia, South America, and other markets as the heaviest and most valuable that have come to hand for a long time past. In the engineering trades some excellent locomotive orders have been placed. In addition to the 50 engines being made by the Manchester, Sheffield, and Lincolnshire Company at their Gorton Works, tenders have been invited from private firms for the construction of another 76. One firm has been fortunate enough to take the entire contract—namely, Messrs. Beyer, Peacock, and Co. (Limited) of Gorton, near Manchester. This should also assist the demand for railway material somewhat. These new engines are all required for the new extension of the Manchester, Sheffield, and Lincolnshire line to London, and they possess several novel features. It is an excellent sign, also, that the Glasgow pig iron market is stronger, prices having advanced during April by nearly 2s. Prices of makers' iron are also advancing. At Middlesbrough prices are also stronger, and the shipments of pig iron from that district have considerably exceeded 100,000 tons for April. They have, in fact, been at the rate of over 4000 tons per working day. Only five times in the history of Middlesbrough have the exports exceeded 100,000 tons.

FURTHER indications of trade improvement are to be found in the firmer tone of the copper market, owing to the gradual dispersement and distribution of a large quantity of warrant copper held over from the time of the French syndicate. This having been got rid of, the market is in a better position. Demand is more active, and values are rising. The improvement in American trade is confirmed by cablegrams to hand during the week. It is asserted that cokes and pig iron are both rising in value, and that on all hands it is declared in the States that a genuine revival is setting in there. If we add to the foregoing considerations the fact of signing of the Treaty of Peace between China and Japan, the operations of China and Europe towards raising money for £40,000,000 indemnity, and the swinging-back of the Orient to the freer admission of Western trade and commerce, as exemplified already in enquiries for material to repair the ravages of war, and for textile machinery to assist the Chinese and Japanese spinning and weaving industries, it will be seen that we have an array of considerations such as will warrant the belief that the long-looked-for British trade revival is at last setting in.

THE MINING MARKET.

FRIDAY EVENING.

A check in the upward movement, followed by a strong revival.—Kaffirs better on balance.—West Australians firm, and generally higher.

THE note of caution which we sounded a week ago came just at the right time, for three days of hesitancy in the Kaffir Circus afforded the opportunity for a wholesale shake-out of weak operators. The market at the close is in a much healthier condition than was the case a week ago. Some extensive speculative positions have been closed up, and it has been made clear, from the steady absorption of shares by investors, that the floating supply of stock is so curtailed as to afford the best guarantee for continued appreciation. On all sides brokers are complaining that they are unable to obtain delivery of the shares whhic they have purchased. The "buying in" that goes on is tremendous, and altogether there is every indication in the character of the Account that the present activity will be maintained for some time to come. The market during the present week has had a good deal to contend against in the closing of the House on Wednesday, the adverse reflection from the Paris Settlement, and the shadow of the approaching London Settlement which commences on Tuesday. But in the face of all these disadvantages the tone is most encouraging.

On Saturday morning the tendency to reaction which had suggested itself during the mid-day dealings of the preceding day or two, became more pronounced. In the South African Market something akin to a small political scare was engineered on the possibility of conflict between Russia and Japan. Sales were pressed from Paris, as much, perhaps, in anticipation of the monthly Settlement on the Bourse as from any direct influence of an extraneous character. To add to the disturbing causes came a sensational paragraph in the City Article of the *Standard*, which condemned with one sweep the whole Witwatersrand Mining Industry. Of course, professionals did not accept this characteristic effusion of Mr. Wilson's as a matter of serious importance, but under the special circumstances of the day they were inclined to provide for it possible effect upon less sophisticated readers. At the same time they were not sure that it would be taken at its true value on the Continent. Whatever temporary effect it had, however, was speedily dispelled, and there is little to indicate that French operators were influenced by it. Dulness was noticeable in the Westralian Market on Saturday, but in the Miscellaneous Department, except for a brief reaction, prices were distinctly buoyant, and business was on such a large scale that the completion of orders was attended with the greatest difficulty. On Monday Kaffirs were flat on the pressure of selling orders from Paris, occasioned, as far as could be traced, by the liquidation in connection with the Settlement. Jobbers evinced a disposition to let prices down, accompanying their sales with exaggerated references to political complications. A general fall in prices was established, though shares were readily taken at the lower level, and the last prices were considerably above the worst. On Tuesday the opening was weak, and some nervousness was displayed, dealers with heavy books appearing to be palpably fidgetty. Things were at their worst before luncheon, but in the afternoon fresh buying orders from France put a fresh complexion upon matters, and brought about a strong rally all along the line. The same course was pursued in the Miscellaneous section, but Westralians were systematically dull throughout the day. Wednesday was a general holiday, the Stock Exchange being closed for the customary May Day cleaning. The confidence which was in evidence on the eve of the holiday was more than ever conspicuous on the resumption of business on Thursday. A general advance in prices resulted from the preponderence of buying orders from the Provinces as well as the Continent. The market in Land shares participated in the activity of Gold varieties. Westralians commanded increased attention, but there was some dulness, with a disposition to relapse in the Miscellaneous group. Indians were offered on reports of the dangerous illness of Sir Charles Tennant.

To-day there has been a steady stream of business, with no specially sensational fluctuations. The under-current is good, and operators are confident. There is, however, a slight reaction from the best in some of the shares which were most in demand during the morning.

South Africans.

Perhaps the greatest show of strength amongst Gold shares has been in Wemmers and Van Ryns. The former, which have been out of the Dividend List since 1892, have been extensively bought on persistent rumours of a cent. per cent. dividend, based upon the statement in the report for the half-year ending in February, that a dividend fund was to be formed, out of which a first distribution would be made by the beginning of June, to be followed by others at regular periods. The shares opened at 10¼ on Saturday, went to 11½ on Monday, to 12⅝ on Tuesday, and to 13½ on Thursday. The last price—12¾—therefore, shows a gain of 2½ on the week. An early gain in Van Ryn was lost during the flatness of Monday and Tuesday, when the price was no better than 7. On Thursday there was a sensational jump to 8 15/16, and this morning the price further hardened to 9¼. Buying orders have been based on encouraging accounts of the successful development of the Van Ryn West, in which the Van Ryn proper holds a large interest. Geldenhuis Estates have been bought at an advance of ¾, from the bottom at 7⅜, on the prospective addition to the stamps at the mine. An undertaking in which interest has been revived is Vogelstruis, which shot up about £1 on Monday to 6½. The market in these shares, however, is very wide, as dealers are all one way. There has been little movement of importance in the Barnato stocks, one day's improvements being set off by another day's declines. Glencairns are ⅛ better at 4⅜, whilst slight losses are shown in Buffelsdoorn at 5¾ and New Primroses at 7⅜. Deep Level properties have not absorbed so large a proportion of attention as during previous weeks. Gold Fields Deep are 1/16 easier at 7 1/16, and Nigel Deep are the turn better at 2 1/16. East Rands were in demand on Saturday, being bought up to 6½ on the strength of the reconstruction of the Ramsay Mine, in which East Rand shareholders will have a special allotment equivalent to a bonus. The reaction on Tuesday to 5½ enabled strong buyers to pick up some cheap shares, and when the turn came the upward movement was very quick. The last price—5 13/16—is a shade weaker than a week ago. Rand Mines, pressed for sale from Paris on Saturday, lost 1¼ at 31½, but the process of recovery has been steady, and at 33¾ the shares are ¼ better on the week. Johannesburg Gold Fields have been as good as 10s., and are still worth picking up round about 9s. Sheba were rushed up to 2⅝ on Monday, but have since relapsed on realisations to 2¼. Afrikander came into demand on Tuesday on the carrying of the enlargement scheme, under which shareholders will have rights to allotment of a portion of the new capital at par. The shares are 3/16 better at 2 5/16. There have been daily fluctuations in Block B, which leave the price unchanged at 25s. New Chimes dipped to 3¼ on Monday, but rose smartly on Thursday to 4, with a further gain to-day at 4 7/16, on the announcement of the formation of a subsidiary company to be called the Chimes West. The parent company accepts 18,000 fully-paid shares in exchange for 22 mining claims, and shareholders in the Chimes Company have first offer of 50,000 shares at £1 2s. 6d. to provide working capital. The issue is guaranteed by the Anglo-French Exploration Company which has secured options for further issues. The shares of the last-named company have been in demand in consequence, though the quotation is practically unaltered at 4. City and Suburban have put on fractions day by day, and at 27 are a clear point up on the week. George and May had a heavy slump on Monday, being offered at 2. There has since been some recovery, the last price, 2½, being 1/16 lower on balance. Gold Coast Developments are 6d. better at 7s. 6d., with an improving tendency on the completion of the negotiations for the purchase of the Apantoo property, which has been most favourably reported upon by Mr. Pearse. Kimberley Roodepoort gave way heavily on Saturday and Monday, losing in the aggregate over a point at 2½. A strong demand set in for the shares on Tuesday, carrying the price back to 2 13/16, and on Thursday they went straight away to 4. To-night they stand at 4⅛, the highest price yet marked, which leaves them ⅜ better on the week. In Knight's a somewhat similar course was pursued. In the slump of Monday a relapse of nearly a point was marked at 7 1/16, but the loss has been partially recovered at 7 11/16. Langlaagte Royal were as low as 4⅛ on Thursday, speculative interest in these shares being very small. To-night the price is back to 4½. The Luipaard's Vlei report was not regarded as encouraging, and the price has given way 2s. 6d. to 24s. Metropolitan has sagged off in spite of vigorous attempts to boom the shares. The last price, 3½, is above the worst. Modderfonteins which we left at 16¾, marked 15½ on Monday, but have since made up lost ground. Nigel fell to 7 1/16 on Monday, but spurted when once the turn came, putting on no less than ⅞ on Thursday. The last price—8½—is ½ better on the week. Pardy's Range has been steadily supported round 11s. 6d. A share which has grown in popular favor is Salisbury, which, on the prospects of an amalgamation scheme, is a clear point to the good at 5⅛. Spitzkop had a special strength of its own throughout the dulness of Monday, and is 3/16 higher on balance at 1 1/16, after being higher. Worcester had a jump of ⅛ this afternoon to 5⅛, marking over a point on the week. May Consolidated and Princess were extensively bought on Tuesday and Thursday on a blind tip in the *South African Mining Journal*; and another share which has attracted attention without making much headway is Pleiades, quoted about 2½. Generally speaking the losses at the beginning of the week have been recovered, so that changes on balances are unimportant. In the Land section the most sensational movements have been in Henderson Transvaal, which were sold down to 3 on Saturday, and touched 5 on Thursday, closing to-night at 4⅛. Chartered have moved within a small compass, and at 4⅛ are practically unchanged. Alexandra Estates went over 19s. on Monday, but are scarcely changed on balance at 17s. There was not much in the directors' report just issued to justify the advance, as a loss was shown on last year's working. Pardy's Mozambique is ½ better at 2½, whilst Oceana has receded 1/16 to 3 1/16. There have been few dealings in New Belgium and Silati, which, however, are not unlikely to attract renewed attention if the boom continue. Potchefstrooms after receding to 1½, leave off slightly under the best at 1 11/16. Klerksdorp at 26s. are 1s. 6d. lower. Coetzeestrooms have reacted 2s. or so to 11s. 6d., but may be expected to resume their upward movement. The meeting confirming the increase of the capital was held on Wednesday, and allotments of the new shares will be on the way directly, yielding a bonus to the shareholders. Consolidated Gold Fields have been largely bought, scoring a gain of ¾ since the holiday at 9 1/16. Graskops had a spurt to-day to 7s. 6d. Gwelos have dwindled away to 4s. Diamond shares have attracted little attention, De Beers being without alteration at 21. Jagers, however, have given way, and close ½ lower at 10. Gordons are slightly better at 9s., an encouraging report having been published to the effect that there is sufficient blue ground in sight to keep the new machinery at work for 18 months. Johannesburg Investments shared in the general depression, and dipped to 4, but have recovered smartly to 4⅜, and are talked higher. Anglo-French are over 5. South African Gold Trusts are 5/16 up at 6⅜, and increased attention has been given to South African General Developments, 9d. better at 7s. 6d., on the appointment of Mr. Jameson, brother to the Commissioner for Mashonaland, as agent, with instructions to organise prospecting parties to investigate the lands controlled by the Syndicate.

West Australians.

Hampton Plains and Lands have been largely bought from Paris, and mark a considerable gain on the week, the former being ⅜ up at 2 13/16, and the latter ½ better at 4⅛. A special feature has been the strength of Austins, which touched 1 1/16 on Saturday on reports of satisfactory crushings. The last price is 1 3/16, marking a gain of ⅛ on the week. Great Boulders had a spurt on Monday on a cable from Mr. Zebina Lane that the crushing in progress was showing 10 ounces to the ton. The shares are, however, back from the best at 1 5/16. Golcondas have been bought from Scotland, and are 1/16 better at 1 3/16. Londonderry has been neglected and remains at ⅛, with South Londonderry steady at 7s. 3d. The return of the application money and the cancelment of all bargains in the shares of "Australia" (Limited) form a satisfactory conclusion to an unsavoury episode. Bayley's are dull at 9s. 9d., and Cashman's are flat at 3/16. Coolgardie Syndicate is firm at 15s. after being better, and extended attention has been given to Murchison at 7s. 3d., and Sherlaw's Gold at 11s. 3d., each representing slight gains on the week. Zapopans have relapsed 2s. to 9s. West Australian Gold Estates at 1 1/16, and White Feathers at 2⅛ are ⅛ better, whilst insignificant declines are shown in Concessions at 1⅞, Explorations at 2 3/16, and Gold Fields at 3 1/16.

Miscellaneous.

There is nothing very sensational to record among the movements in the Miscellaneous department. Little Indians have gone ahead as much as anything, Mysore West and Wynaad dipping to 21s. on Monday, and rallying to 23s. on Thursday. Ooregum Ordinary at 3 3/16 and the Preference at 4, Mysore at 2 1/16, Champion Reef at 4½, and Nundydroog at 2 1/16, are all ⅛ or so down, sales having been pressed on the illness of Sir Charles Tennant. There is not much change in the Charters Towers group, Brilliants being round about 18s., Victory 6d. easier at 7s., and Day Dawn Block steady at 12s. 3d. Charters Towers Consolidated have been dealt in between 4s. and 5s., and are spoken of as the medium of an impending market movement. New Chums (Bendigo) have put on 1s. 3d. at 16s. 3d. The Kapanga group is easier. Kapanga at 16s. 6d., Hauraki at 12s., and Scotty's a 4s. Broken Hill Props are slightly harder at 2, with British 1s. down at 8s. 6d. Waihi has lost ⅜ at 7½. Wentworths have been flat with periods of resuscitation, but at the close the ordinary are ⅛ easier at 1½, with Priority unchanged at 1⅛. Among copper shares Rio Tintos have monopolised attention, improving steadily until Thursday, when 14⅞ was touched. The last price—14⅝—represents an improvement of the odd fraction on the week. Burma Rubies have been neglected round about a pound.

British Mines.

The Cornish Market, generally, has been dull this week, and, on the whole, prices are a shade lower. A good many Dolcoaths have changed hands from 40 to 40⅜, and it is assumed that the scheme for the reconstruction of the company, which will be submitted to the shareholders next Thursday, will be well received. There is an improvement at Blue Hills; shares are enquired for at 7s. 6d. Carn Brea have receded to 30s., and Killifreths to 7s. 6d., but we do not hear of any change in either mine. East Pool have receded to 5½, in consequence of the stoppage of Wheal Agar engine. We fear that it will soon be a serious inconvenience to the former. West Kittys are firm at 5⅜. Grenvilles are about 10¼, but not much doing.

STOCK EXCHANGE SETTLING DAYS.

Settling Days on the Stock Exchange are as follow:—
Consols, Wednesday, June 5.

STOCKS AND SHARES.
MAY.

Ticket Days.	Account Days.
Thursday, May 9	Friday, May 10
Thursday, May 23	Friday, May 24

Contango Days for South African Market are:—

Tuesday, May 7	Tuesday, May 21

WE take much pleasure in acknowledging the receipt of *El Ingeniero Espanol y la Gaceta Sud Americana* for the month of April, which paper is now being published in an improved form, and is well worthy the attention of such of our readers who have commercial or technical relations with the Spanish-speaking States of the American continent. It contains a number of articles upon engineering, scientific, and technical matters of current interest, and notices of novel inventions and improvements in all branches of machinery and mechanical engineering. Its main object, however, is to serve as a medium of advertisement and inter-communication between manufacturers and their South American clients. The importance of such an organ to British manufacturers is readily apparent when it is borne in mind how constantly producers in this country lose their hold of foreign markets through not being in touch with consumers abroad, and, therefore, not thoroughly appreciating their requirements. This paper offers them, at any rate, a ready means of communication with South American buyers, and enables them to keep the latter informed of the newest improvements in the articles which they can offer for sale. Those who believe in the superiority of British manufactures will welcome any means of enabling this to be demonstrated to possible purchasers abroad, and the *Ingeniero Espanol* offers facilities to this end in one of the most important markets of the world.

THE London-Paris Financial and Mining Corporation has opened an office at 2, Place de l'Opéra, Paris, and has been appointed agent to the following South African companies:—New Primrose Buffeldoorn Estate, New Circus, Glencairn, Langlaagte Royal Kimberley-Roodepoort, New Consort, Pleiades, Aurora West United, Johannesburg Consolidated Investment, Johannesburg Waterworks, Spes Bona, Ginsberg, Balmoral, and South-West Rand Mines.

LATEST FROM THE MINES.

CABLEGRAMS AND TELEGRAMS.

ALADDIN'S LAMP.—Cablegram received from the mine:—"Five weeks' crushing; 223 tons of ore have been crushed, yielding 1768 ounces of gold, the tonnage being less than usual owing to the ball mill being stopped for repairs. The stopes still hold good in the north-west end of the 500 feet level, and we have resumed sinking the main winding winze elow this level."

BLACKETT'S CLAIM.—The following cablegram has been eceived from the manager at the mine:—"Have struck a flow water in the main shaft at a depth of 130 feet. There is a slight but undoubted tendency to improvement; the country rock is slate. Have sunk north shaft 53 feet. Crosscut has just intersected the lode; the ore at this point is low grade."

BRILLIANT AND ST. GEORGE UNITED.—Messrs. Burkitt, Munro and Co., 16, Cornhill, E.C., have received the following cablegram:—"Have crushed 655 tons; 1000 ounces gold."

BROKEN HILL PROPRIETARY.—For the week ended the 25th ult. 8458 tons of ore were treated, yielding 708 tons of lead containing 214,478 ounces silver; also 1506 tons treated by amalgamation and leaching plants, producing 10,777 ounces ilver.

BROKEN HILL PROPRIETARY.—The directors report that for the week ending the 2nd inst. 8773 tons of ore were treated, yielding 831 tons of lead, containing 186,973 ounces silver; also 1,511 tons treated by amalgamating and leaching plants, producing 38,509 ounces silver. The price of the shares in Melbourne is £2 1s., buyers.

BURMA RUBY.—The returns for April, received by telegram, are as follows:—"7300 loads washed, producing rubies valued at Rs. 32,000."

BUFFELSDOORN ESTATE.—The London agents announce receipt of the following advice from Johannesburg:—"This company has just exercised an option to purchase the mynpacht of the Farm Stillfontein, immediately south of the property known as Welgegund or Request. With the view to flotation of subsidiary companies, and especially to the early reconstruction of the White Reef Company, this acquisition is regarded by the board as of great value. In Buffelsdoorn Mine proper very large quantities of ore are being developed, in readiness for the additional 70 stamps which are to be operating during October next. The reef in the lower levels maintains its size, and has lately improved in grade."—Official Note: It is understood that important announcements with respect to this company may be shortly expected.

CARDIFF CASTLE.—The company has received the following cablegram from its Coolgardie representatives:—"Notified by Minister, leases granted."

CHIMES WEST.—The London agents of the New Chimes Gold Mining Company have received advice from the head office in Johannesburg, by a cable, that a company has been formed to take over from the New Chimes Gold Mining Company (Limited) the Florence Block of 22 claims and 101 others acquired from the Benoni Syndicate and Chimes Deep (Limited). The name of the new company will be the Chimes West (Limited), and the capital will be £200,000 in £1 shares. The New Chimes Gold Mining Company (Limited), in settlement of, approximately, 22 claims, will receive 18,000 shares; the Benoni Syndicate and Chimes Deep (Limited), in settlement of, approximately, 101 claims, will receive 82,000 shares; 50,000 will be held in reserve, and 50,000 will be issued to provide working capital. The working capital is being issued at £1 2s. 6d. per share, and has already been guaranteed at that price by the Anglo-French Exploration Company (Limited); but will first be offered to the New Chimes shareholders at the rate of one share for every two of their present holding. The guarantors of the working capital, in consideration of their guarantee, receive the call of 25,000 of the reserve shares at £1 2s. 6d. for nine months, and over the remaining 25,000 shares at £1 7s. 6d. for 15 months.

CONSOLIDATED GOLD MINES OF WESTERN AUSTRALIA.—The following telegram has been received by Mr. A. F. Calvert from a gentleman he sent out to Western Australia about two months ago to report on the Nicol properties belonging to the above-named company:—"Nicol. I have carefully examined the property; five shafts down to the water level. I consider it a most valuable property. The situation of the property is all that can be desired; fuel and water both abundant; gold can be seen throughout the mine; ore in shaft is improving as it goes down; it is a well-managed mine."

EL CALLAO.—Messrs. Baring Brothers and Co. (Limited) have received the following telegram from the President of El Callao Gold Mining Company:—"451·75 ounces of gold in bars produced by El Callao mine for past month; 1751·75 ounces of gold in bars produced by the Colombia mine.

EAST NIGEL.—The secretary reports that a cablegram has been received by the directors, announcing the transfer of the property to the company.

ELKHORN.—Bullion produced in the mill for the week ending ending April 27, 7500 ounces.

GREAT BOULDER.—Cable received from Mr. Zebina Lane, engineer to the Great Boulder Proprietary Gold Mines (Limited) states that 414 ounces of gold had been taken from the plates on account of second run of battery, and that the final clean-up would be made about the end of the present week. A further cable states the yield per ton as equal to 10 ounces.

HARRIETVILLE.—The directors have received the following telegram from the mine, dated May 3, giving the result obtained during the past four weeks:—"98 tons, 121 ounces; tributers, 16 tons, 18 ounces."

HANNAN'S REWARD.—The following cablegram has been received from the manager at the mine:—"No. 6 have struck reef at a depth of 150 feet in the main shaft, very rich in gold." When last reported, under date March 22, No. 6 reef was 2 inches wide, of 11½ ounces stone.

JUMPERS EXTENDED.—The following cablegram has been received, dated Johannesburg, April 29:—"Work progressing favourably. Am opening No. 2. Reef's prospect most encouraging."

KABOONGA.—The following is a copy of cablegram received from the manager at the mine:—"Average weight from five machines is 21 dwts. South-east drive, drivage east. Prospects are most encouraging. South-west drive. Our prospects are undoubtedly good; ground is very heavy; deep ground must be very near."

KANOWNA.—The directors have received a letter from the manager, Mr. John Woolcock, giving his first impressions of the company's property as follows:—"The main line of lode evidently traverses right through the Kanowna Company's section, its course being a little east of north, with an easterly underlay. A shaft has been sunk upon the underlay of the lode to a depth of 55 feet, the lode showing all the distance down, varying in width from 1 foot 6 inches to 6 feet, carrying fine gold throughout."

JOHANNESBURG PIONEER.—Output for last month, 1058 ounces of gold.

KOFFYFONTEIN.—A cable received from the company's mine states that 2520 carats were recovered during April.—Official Note: Owing to the scarcity of native labour the second gear was unable to work, which accounts for the short fall in the return. This has, however, been rectified.

LINDSAY'S EXTENDED (East).—The following cablegram has been received:—"Crushed during week 5 tons, yielding 12 ounces; very fair; an average sample from the heap. An average sample from the tailings gave 16 dwts. per ton; blanket 4 ounces per ton. Have began to sink; sinking at the rate of 3 feet per day." The secretary states:—"The stone abovementioned was taken from the heap at grass from which all stone showing gold had already been picked out, while the assay of tailings and blanketing shows that a great deal of gold was lost."

MILLS' DAY DAWN UNITED.—Cablegram from the head office in Charters Towers:—"Have crushed during the month 3044 tons of quartz for a yield of 2476 ounces of gold. The approximate value of this return is £8550."

MENZIES GOLD REEFS PROPRIETARY.—A cablegram received from the mine states:—"Incline Shaft 50 feet; the ore is specimen. Vertical Shaft, 190 feet; perfectly fair bulk; average sample of ore, 9 ounces gold per ton."

MOSMAN GOLD MINES.—Cablegram from the manager at Charters Towers:—"Company's Rainbow Tribute: Have crushed 101 tons of quartz for a yield of 366 ounces of gold. The stopes still hold good."

NERBUDDA COAL AND IRON.—The sales of coal for the month of March last amount to 1560 tons.

NEW CENTRAL BORNEO.—Cablegram received from Labuan:—"Output, 1000 tons; sold locally and exported, 82 tons."

NEW ST. AUGUSTINE.—A cablegram from the mine states:—"1700 loads yield 72 carats."

NEW QUEEN GOLD.—Cablegram, dated Charters Towers, April 27, gives result of crushing for past fortnight:—"250 tons, yielding 455 ounces gold. Have drawn upon you for £1000."

NINE REEFS.—The directors have received the following telegram, dated May 3, from the mine:—"360 tons milled yielded 220 ounces gold, 135 tons quartz."

OOREGUM.—The directors have received a telegram from the mine, dated May 3, giving last month's return of gold as follows:—"4066 tons of quartz produced 4652 ounces of gold; 4711 tons of tailings, 956 ounces of gold. Total production for the month, 5608 ounces of gold."

ORION.—Details of working for March:—Tons milled, 4533; stamps working, 40; number of days mill ran, 27; yield from plates, 994·90 ounces of gold; tailings treated by cyanide, 2132 tons; yield of bullion from cyanide works, 1842·75 ounces."

ORIENT.—The following cablegram, dated Cairns, Queensland, April 29, has been received:—"Driven 19 feet during the week; very promising quartz, fair quality. The contract is signed for carriage of the battery to the mine. There is a favourable change in the weather."

PESTARENA UNITED.—Gold return for April:—"570 ounces from 574 tons of ore, equals 19 dwts. 20¾ grains per ton."

PIGG'S PEAK DEVELOPMENT.—Copy cable received from manager at Pigg's Peak:—"Strike made Eagle's Nest assaying 9 ounces to the ton." This refers to the new property recently acquired by the company.

ROYAL OAK OF HAURAKI.—A telegram has been received by the secretary from Captain Hodge, saying: "Have examined the mine; working with good prospects of success."

SIMMER AND JACK.—Last month's profit was £6750.

SPITZKOP.—Cable: "About to commence crushing 1st May." Under date 4th April, the manager writes: "As against the outlay occasioned by the new reef, the company will possess plant in first-class order, and of such a description as they have never had before, and an asset in the ore already mined, which, computed at the low valuation of 10 dwts. per ton, is worth over £15,000. The latest assays from our reef are 14 dwts. 14 grains average."

SUTHERLAND REEF.—In consequence of enquiries at the office as to whether crushing has been interferred with by the death of the manager on or about the 10th inst., the directors cabled for information, and have just received a telegram saying that the mill has been working uninterruptedly during month, and that the death of the manager was due to his spine having been fractured in the skip. Directly on the news of the accident to Mr. Stephens, the directors requested Mr. Proctor by wire to engage another manager. The first consignment of 466 ounces of gold has been sold in London for £1853, and after deducting refining charges the net proceeds was equal to £3 19s. per ounce. The total yield of gold for March was 687 ounces, beyond about 300 ounces absorbed in the plates.

STAR OF THE EAST.—Mr. J. Berry White has been appointed a director. The share certificates are ready, and will be issued on and after the 6th inst. in exchange for the bankers' receipt for £1 per share. The following information has been received by cable from the company's mine managers:—"The result of the clean-up of 16 days' crushing to April 27 was 450 tons crushed, yielding 425 ounces of gold."

SPRINGDALE.—Arthur L. Pearse, consulting engineer to the company, who is leaving for Denver by the *Lucania*, has received the following cable from the mines:—"Have cut lode in crosscut. Nancy Lee developed a fine orebody; Gold Standard tunnel will be driven with all possible speed, placing hoisting engine in position. Twenty tons Mountain Lion milling ore, an average sample from dump, gave $12·50 per ton. Milling delayed owing to machinery out of repair. Mill starts again in 10 days."

TWIN LAKE PLACERS.—The manager reports the following result for April:—"Cubic yards of gravel washed 35,000; square yards of bedrock exposed, 4500. The second and final instalment of $3500 due from the Colorado Midland Railroad Company, under the arrangement referred to in the annual report for 1894, has now been received."

TOLIMA.—The following cablegram has been received from the mines:—"Estimated profit for April, £700." In the above return silver is valued at 29d. per ounce.

THISTLE REEF.—Cablegram received April 29:—"Have almost completed the 10 head battery, with engine, boiler, gearing, and amalgamated copper plates; additional five-stamp mill is now in course of erection. We have now ready for the mill 5000 tons quartz. Our mining prospects continue very favourable."

UNITED MEXICAN.—The directors have received the following telegram:—"San Cayetano: Gross returns for the week ended April 20, $530; expenses, $1000; loss, $470.—El Cubo: Gross returns for week ended April 20, $6370; expenses, $4262; profit, $2108."

WAIHI SILVERTON EXTENDED.—Cable news is to hand that the properties have been registered in the name of the company in New Zealand.

WEST AUSTRALIAN GOLD CONCESSIONS.—A telegram has been received from Mr. A. Spencer Ellam that the reef in the Talisman Mine, one of the company's properties, has widened to 10 feet, and that the ore contains visible gold.

VICTORIA (Charters Towers).—A telegram states:—"280 tons crushed yielded 600 ounces gold."—The following additional cablegram has been received at the London Office, dated 3rd May:—"55 tons crushed, yielded 374 ounces gold."

WARATAH.—The following cablegram has been received from the company's agent at Croydon, Queensland:—"Croydon, May 3: Have struck rich body of ore in the sink. Assay value of £19 per ton. Manager strongly recommends increasing the number of men employed to 16. There seems every prospect of good results. We could crush monthly in the future."

THE METAL MARKETS.

LONDON METAL MARKET.

THE METAL MARKET, LONDON, MAY 3.

Copper.

THE firmness of the Copper Market made further strides this week enhanced by the active interest displayed both by speculators and consumers, and by the strong tone prevailing in America. The course of the G.M.B. market has been as follows:—On Monday about 1100 tons G.M.B.'s changed hands, the market being firm with a good speculative demand. Cash G.M.B.'s improved to £40 17s. 6d., and three months to £41 6s. 3d. On Tuesday there was again an animated market, the turnover amounting to 1300 tons, whilst prices rose to £40 18s. 9d. s.c., and £41 7s. 6d. three months. On Wednesday £41 1s. 3d. s.c., and £41 2s. 9d. three months were done, and on Thursday £41 6s. 3d. s.c., and £41 13s. 9d. three months, the transactions for the two days amounting to 2350 tons. To-day, after business (in all about 1100 tons) at £41 5s. to £41 1s. 3d. s.c. and £41 12s. 6d. to £41 8s. 9d. three months, the market closed steady at £41 to £41 2s. 6d. s.c., and £41 8s. 9d. to £41 10s. three months.

Tin.

The speculative market for tin opened with a considerable business at £64 s.c. Straits and £64 7s. 6d. to £64 10s. three months, and would probably have improved had it not been for the lower silver market. On Tuesday 175 tons were done, the three months' price declining to £64 5s. Only about 30 tons changed hands on Wednesday, £64 being again paid for s.c. Thursday brought a firmer tone, with an advance in values to £64 8s. 3d. s.c. and £64 15s. three months, the turnover amounting to 200 tons. To-day a large business (500 tons) was done in the morning at £64 10s. s.c., and £64 17s. 6d. to £64 15s. three months. This afternoon, after business at £64 10s. s.c., with a turnover of 550 tons, the market closed firm at £64 10s. buyers of s.c., and £64 17s. 6d. buyers of three months. Billiton improved from 38⅛ fl. s.c., and 38⅞ fl. three months, to 39 fl. and 39¼ fl. respectively, but closed this morning at 38⅞ fl. and 39⅛ fl., with Banca at 39⅛.

Pig Iron.

In the Glasgow market the value of Scotch warrants rose from 43s. 0½d. s.c. (Monday's lowest price) to 43s. 11d. on Thursday; a large business taking place especially on Wednesday and Thursday. Towards the close on the latter day, the market was weaker at 43s 8d., and to-day it declined further, closing flat at 43s. 5½d. buyers, whi st Middlesbrough closes at 39s. 6d., and hematite at 43s. 8¼d. Scotch shipments are advised as 3652 tons for last week against 4580 tons for the corresponding week of last year.

Lead

has again weakened somewhat, and closes quiet at £9 16s. 3d. to £9 17s. 6d. soft foreign, and £9 18s. 9d. to £10 English.

Spelter.

This market has been strengthened by an active demand for consumption, and the close is firm at £14 2s. 6d, buyers of ordinaries, and £14 5s. to £14 7s. 6d specials.

Antimony

is steady at £31.

Quicksilver

continues firm at £7 firsts and £6 17s. 6d. to £6 18s. seconds.

The following are to-night's (May 5) prices of metals:—

		£	s.	d.		£	s.	d.
Copper.								
Tough cake and ingot		44	5	0	.....	44	15	0
Best selected		45	0	0	.....	45	10	0
Electrolytic Copper								
Sheets and sheathing					.....	51	0	0
Flat bottoms					.....	54	0	0
Chill bars	spot, & 3 months respectively	41	0	0	.....	41	8	
Good merchantable,								
Copper tubes, seamless					.....	0	0	7
Alloys.								
BRASS: Wire					.....	0	0	5¼
" Tubes (solid drawn)					.....	0	0	5¾
" Sheets					.....	0	0	5¾
PHOSPHOR BRONZE: Alloys II.					.....	78	0	0
" " III. or	Cog Wheel Brand				.....	81	0	0
" " VII.					.....	83	0	0
" " XI.					.....	76	0	0
" " Vulcan brand A1					.....	72	0	0
DURO METAL					.....	73	0	0
BULL'S METAL					.....	65	0	0
Ferrobronze (Vivian's).								
Ingots	per lb.	0	0	5¼	.....		—	
Ordinary sheets, plates, bolts and bars		0	0	6¾	.....		—	
Screw bolts and nuts		0	0	7¾	.....		—	
Pump rods, plain		0	0	6¾	.....		—	
" finished		0	0	9¾	.....		—	
DELTA METAL: No. 4 (per ton)					.....		—	
" Sheets and plates (per lb.)					.....		—	
" Bars, round, square, flat (per lb.)					.....		—	
" " hexagon (per lb.)					.....		—	
Tin.								
English, ingots, f.o.b.					.....	69	0	0
" bars					.....	70	0	0
" refined					.....	71	0	0
Straits, spot and 3 months respectively		64	10	0	.....	64	17	6
Australian spot, and three months respectively		65	10	0	.....	65	17	6
Banca " (in Holland)		66	2	6	.....	66	5	0
TIN PLATES: Charcoal, best quality	per box	0	14	0	.....	0	16	6
" " ordinary		0	11	6	.....	0	13	6
" Coke, best quality		0	9	6	.....	0	10	6
" " ordinary		0	9	3	.....	0	9	6

These prices of tinplates are f.o.b. at Swansea; at Liverpool 6d. per box more.

Iron.								
Pig, G.M.B., f.o.b., Clyde, spot					.....	2	3	3¼
" Scotch pig, No. 1 Gartsherrie					.....	2	10	9
" " Coltness					.....	2	12	6
" " Clyde					.....	2	8	6
" " Govan					.....	2	5	6
Bars, Welsh, f.o.b. Wales					.....	4	17	6
Plates "					.....	5	17	6
Bars, Staffordshire, at works					.....	5	0	0
Sheets " "					.....	6	1	3
Plates " "					.....	6	0	0
Hoops " "					.....	5	8	9
Ship plates, Middlesborough					.....	4	15	0
STEEL: English spring					.....	10	0	0
" " cast					.....	42	0	0
" Rails at works, according to section		3	10	0	.....	4	15	0
Lead.								
Spanish or soft foreign		9	16	3	.....	9	17	6
English pig, common		9	18	9	.....	10	0	0
" L.B.					.....	10	10	0
" sheet					.....	11	5	0
" bar lead					.....	11	5	0
" pipe					.....	11	15	0
" red					.....	12	5	0
" white					.....	16	5	0
" patent shot					.....	14	10	0
Spelter.								
Silesian ordinary brands					.....	14	0	0
" special brands					.....	14	5	0
English Swansea					.....	14	15	0
Sheet Zinc		17	12	6	.....	18	0	0
Antimony.								
Antimony					.....	31	0	0
Quicksilver.								
Flasks, 75 lbs, warrants		6	17	6	.....	7	0	0
Manganese.						per unit.		
Ore, c.i.f., U.K. ports								
1st quality, 50 per cent, and upwards		0	0	10	.....	0	0	10½
2nd " 47 per cent, to 50 per cent.		0	0	9	.....	0	0	10
3rd " 40 " 47 per cent.		0	0	7½	.....	0	0	9
Aluminium.								Per lb.
98–99½ per cent, (guaranteed 98 per cent. min.)	in ingots (1 cwt. lots)					0	1	7
do	do (1 ton lots)				.....	0	1	6
Nickel.								
98–99 per cent. guarantee		0	1	8	.....	0	1	4

STRIKE AT THE RIO TINTO MINE.—Three hundred miners at the Rio Tinto Mine struck work on Thursday. They endeavoured to persuade the remaining 3000 workmen also to come out, and asserted that they were resolved to prevent any work being done at the mine so long as their demands were refused them. A force of 40 gendarmes was sent hastily to the men in view of possible disturbances. Later information shows that, though a few more have joined the strikers, the great majority of the men refuse to leave off work.

"THE MINING JOURNAL" SHARE LIST.

ABBREVIATIONS AND REFERENCES.—The following are the significations of the abbreviations and references which occur in the Share List:—*Ay*, Antimony; *A*, Arsenic; *Bl*, Blende; *Bx*, Borax; *C*, Copper; *D*, Diamond; *G*, Gold; *I*, Iron; *L*, Lead; *M*, Mundic; *N*, Nitrates; *P*, Phosphates; *Q*, Quicksilver; *R*, Ruby; *S*, Silver; *S-l*, Silver-lead; *Sul*, Sulphur; *T*, Tin; and *Z*, Zinc. * in the "Amount of Share" column of British Mines signifies that the mine is conducted on "Cost Book" principles; ‡ in the "Head Office" column of African Mines signifies that the address given is not that of the head office, but of a sub, or transfer office; and †, following the names of African Mines, signifies that they are subject to the Limited Liability Law of the South African Republic.

. The following is by far the most complete and comprehensive list of mines, in whose shares business is being currently transacted, published. Additions will be made from time to time as occasion requires. Every effort is made to ensure accuracy, and Secretaries of Companies, Share Dealers, and our readers generally, are cordially invited to co-operate with us to this end, by notifying us of any errors that may at any time occur. We desire it to be understood that, while our Share List will almost invariably be found correct, we do not hold ourselves responsible for any loss or inconvenience that may arise from possible inaccuracies.

BRITISH MINES.

Name	Closing Price, May 3, 1895	Closing Price, Apr. 26, 1895.	Am't. of Share	Latest Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
			£ s.		£ s. d.			
Blue Hills .....*CT*	5/ 7/6	2/6 5/	*	2/- May,'81	5 19 5	5,353	Cornwall	Camborne.
Botallack ....*T*	—	—	*	—	51 4 6	1,880	Cornwall	St. Just.
Carn Brea ....*T*	1⅞ 1⅛	1⅛ 2	*	2/6 Dec.,'93	22 8 5	6,000	Cornwall	Carn Brea.
Cook's Kitchen ..*T*	5/- 10/-	5/- 5/	*	—	35 15 10	4,900	Cornwall	Camborne.
Devon Gawton *CA*	par ¼ pm.	par ½pm.	1 0	—	0 12 6	25,000	Tavistock	8, Finsbury circus.
Devon Gt Cons. *CA*	20/ 25/	1½ 1¾	5 0	3/- Nov. '94	2 0 0	10,240	Devon ..	8, Finsbury circus.
Dolcoath ....*T*	39 41	39½ 40	*	12/6 Apr. '94	9 12 6	4,700	Cornwall	Camborne.
Drakewalls *CTM*	—	—	0 5	—	0 2 0	61,856	Cornwall	Dashwood House.
East Halkyn......	20/- 25/-	20/ 25/	1 0	—	0 12 6	12,000	Flintshire	67, Lord St., Liverpl.
East Pool ....*AT*	4½ 5	5 5½	*	1/6 Sept, '94	0 9 9	6,400	Cornwall	Illogan.
Gawton ....*CA*	—	—	2 10	—	2 7 0	12,000	Devon ..	20, Great St. Helens.
Great Laxey......*L*	1½ 1⅝	¾ 1¼	4 0	5/- Apr.,'92	4 0 0	15,000	I. of Man	Douglas, Isle of Man.
Green Hurth ...*L*	1/6	1/6	1 0	-/6 June '89	0 19 0	32,000	Cmberlnd	Newcastle.
Halkyn .... *L*	9 10	8 10	1 0	—	1 0 0	10,000	Flintshire	Chester.
Do. Dis. Mn. Drain	8½ 10½	8½ 10½	10 0	4/- Mar. '95	10 0 0	10,000	Flintshire	CornEx.Cmb.Chestr.
	—	—	1 0	6 p c Aug. 94	1 0 0	3,000	Flintshire	67, Lord St., Liverpl.
Isle of Man ......*L*	3⅞ 4⅜	3⅞ 4⅜	5 0	1/6 Dec. 94	5 0 0	11,000	I. of Man	Chester.
Killifreth ....*T*	5/ 10/-	10/-	*	1/6 Nov.,'94	5 11 6	6,000	Cornwall	Truro.
Leadhills ....*L*	15/- 20/-	15/- 20/	6 0	3/- Sep. '92	6 0 0	20,000	Lanarksh.	30, Finsbury-circus.
Llanarmon	par	par	1 0	—	1 0 0	21,990	Denbigh	S. Werburgh Chmbrs
Llanarmon	par	par	1 0	—	0 15 0	3,790	Flintshire	Chester.
Levant ....*CT*	4¾ 5	4¾ 5	*	4/- Nov.,'94	11 9 6	2,500	Cornwall	Penzance.
Lovell ....*T*	—	—	*	1/3 Nov.,'91	1 16 7	7,165	Wendron	3, Gt. Queen-st., S.W.
Minera..............*L*	—	—	5 0	5/6 Mar. '90	5 0 0	8,000	Denbghsh	Minera, N. Wales.
Nenthd&Tndle.*LZ*	3/6	3/6	1 0	6% Feb.,'91	0 18 0	48,815	Nthumbld	Newcastle-on-Tyne.
NewCooksKitn.*TC*	—	—	*	—	10 18 3	4,900	Cornwall	Camborne.
New Minera.........	—	—	1 0	1/- Oct.,'92	1 0 0	30,000	N. Wales...	6, Queen-street-place.
North Hendre	—	—	2 10	8 p c year 82	2 10 0	11,854	Flintshire	11, Nwgt. st., Chstr.
Parc ....*LZ*	—	—	1 0	—	1 0 0	5,000	Llanrwst...	Billiter sq. buildings
Phœnix United *TC*	1/6 2/-	1/6 2/	*	1/- Mar. '90	7 4 6	10,665	Cornwall	Liskeard.
Polberro ....*T*	15/ 20/	—	*	—	3 7 9	18,000	Cornwall	37, Walbrook.
Rhosemor ....*L*	par	par	1 0	10 p c Sept. 91	1 0 0	1,070	Flintshire	CornEx.Cmb.Chestr.
Rhosemor ....*L*	par	par	1 0	—	0 19 0	18,000	Flintshire	CornEx.Cmb.Chestr.
So. Condurrow *TC*	2/6 7/6	1/6 2/6	*	3/6 Apr. '93	7 17 6	6,123	Cornwall	20, Great St Helens
South Crofty *TA*	7/6 12/6	10/ 12/	*	—	17 7 6	6,120	Cornwall	Pool, Cornwall.
S. Frances Untd. *T*	2/6 7/6	—	*	—	2 7 6	6,000	Cornwall	Redruth.
South Halkyn	par	par	1 0	—	1 0 0	10,000	Flintshire	S. Werburgh Chmbrs
South Halkyn	par	par	1 0	—	0 7 0	30,000	Flintshire	S. Werburgh Chmbrs
Talacre	par	par	1 0	—	0 14 0	20,000	Flintshire	51, Forgate st., Chstr
Tincroft ....*T*	5 5½	5⅜ 5⅝	*	2/- Aug. '94	15 7 6	6,000	Cornwall	Carn Brea.
Weardale ....*L*	8/9	8/9	4 0	1/3 Oct. '90	1 10 0	50,000	Durham..	3, Lombard-court.
West Frances ...*T*	5/- 10/-	½ 1	—	2/6 May,'89	17 1 7	6,144	Cornwall	Camborne.
West Kitty ......*T*	5⅛ 6	5⅛ 6	*	2/- Dec,'94	1 2 0	6,000	Cornwall	37, Walbrook.
Wheal Agar ..*TA*	2/6 7/6	1/6 2/6	*	2/6 Aug.'88	23 15 2	6,000	Cornwall	Redruth.
Wheal Basset ...*TC*	5/ 10/	16/6 17/6	*	10/- Apr.'88	12 3 0	6,144	Cornwall	Redruth.
Wheal Friendly..*T*	-/6 1/-	-/6 1/-	*	—	0 12 9	10,000	Cornwall	110, Cannon-st., E.C.
Wheal Grenville *T*	10 10½	10⅜ 10⅝	*	2/6 Nov. '94	18 2 0	6,000	Cornwall	7, Union-court, E.C.
Wheal Kitty......*T*	2/ 4/	1/6 2/6	*	3/- Mar. '88	4 5 8	8,590	Cornwall	Truro.
Wheal Metal &F.*T*	1/- 1/6	1/- 1/6	*	—	0 13 9	10,784	Cornwall	14, Broad-street.

AUSTRALIAN AND NEW ZEALAND MINES.

Name	Closing Price, May 3, 1895	Closing Price, Apr. 26, 1895.	Am't. of Share	Latest Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Abbotts ....*G*	13/9 16/6	11/16 13/16	1 0	—	0 17 6	67,000	M'rchison	17, Old Broad st.
Achilles Gld Fld.	4/3 4/9	4/6 4/9	2/6	—	0 2 6	642,456	N.Zealand	Poultry.
Aladdins Lamp *G*	18/9 21/3	11/16 13/16	1 0	1/- May '95	1 0 0	100,000	N S.Wales	4-6, Throg. Avenue.
Assoc. Gold Mines	16/3 18/9	⅞ ⅞	1 0	—	1 0 0	375,000	Coolgardie	20, Bucklersbury
Austin............... *G*	1⅛ 1⅞	1⅜ 1⅛	1 0	—	1 0 0	50,000	Murchison	23, College hill, EC
Australasian ......*G*	4/6 5/-	4/3 4/9	1 0	-/6 Mar.,'92	1 0 0	210,000	Queenslnd	6, Queen-st. place
Australian ....*C*	—	—	20 0	1/6 July '94	7 7 6	18,315	S. Austral.	15, Old Jewry Chbrs
Aus. Bro. Hill Con.	4/6 5/-	5/ 6/	1 0	1/- June,'91	1 0 0	537,138	N.S.Wales	Dashwood House.
Baker's Creek ...*G*	17/6 22/6xd	⅞ 1⅛	1 0	1/- Feb.'94	0 17 6	100,000	N.S.Wales	Hillgrove, N.S.Wales
Bayley's Reward *G*	9/6 10/-	10/ 10/6	1 0	-/4 Dec. 94	1 0 0	480,000	Coolgardie	F'sb'y. H. Bl'mf'ld St.
Big Blow ....*G*	15/- 16/-	11/16 13/16	1 0	—	0 15 0	100,000	Coolgardie	Blomfield Ho., E.C.
Blackett's Claim *G*	8/9 11/3	½ 9/16	1 0	—	1 0 0	60,000	Coolgardie	Winchester House
Blue Spur & G. G.	-/6 1/-	-/6 1/	1 0	—	1 0 0	80,098	N.Zealand	6, Gt. St. Helens'
Bonnie Dundee *G*	17/- 18/-	17/ 18/	1 0	—	0 18 6	120,000	Queenslnd	3-5, Gracechurch-st
Brilliant.............*G*	19/- 20/- xd	⅞ 1 xd	2 0	-/4 Mar. '95	2 0 0	250,000	Queenslnd	Charters Towers.
Brilliant Block...*G*	1⅜ 2	1 13/16 2 1/16	2 0	-/6 Apr. 95	2 0 0	250,000	Queenslnd	3, Gracechurch-st.
Brilliant, St. Geo.	1⅜ 1½	1⅜ 1⅝	0 10	6d. Apr. '95	0 6 3	72,000	Queenslnd	Charters Towers.
Brit. Brok. Hill *S*	—	8/ 9/	1 0	—	1 0 0	—	N.S.Wales	Dashwood Ho., E.C.
Brit. Broken Hill	—	—	0 8	—	0 8 0	—	N.S.Wales	Dashwood Ho., E.C
Broken Hill Prop.	1 15/16 2 1/16 xd	39/ 40/	0 8	1/- Apr. '95	0 8 0	960,000	N.S.Wales	Dashwood Ho., E.C.
Cashman Bril.... *G*	½ ¾	⅜ ¾	1 0	—	1 0 0	60,000	Coolgardie	Winchester House.
Carrington........*G*	10/- 11/-	10/6 11/6	12/6	—	0 12 6	100,007	Queenslnd	9, Tokenhouse Yard.
Con. G. M. of W. A.	par ⅛ pm	1 ⅛	1 0	—	0 12 6	90,000	W.Austral	14, Hill st., Edinboro'
Coolgardie.........*G*	-/6 -/9	-/6 /9	0 2	—	0 0 6	40,000	Coolgardie	Winchester House.
Coolgardie(Shrlws)	15/- 16/-	10/9 11/3	1 0	—	0 6 0	—	Coolgardie	Broad Street Avenue.
Craven's Cal. ... *G*	3/6 4/6	3/6 4/6	0 6	-/3 June 94	0 4 8	100,000	Queenslnd	30-1, S. Swithin's-le.
Crown Bayley's..*G*	1/16 ⅛ pm	1/16 ⅛ pm	1 0	—	0 10 0	80,000	Coolgardie	Bishopsgate Ho. E.C.
Cumbrind (New)*G*	3/6 4/-	3/9 4/3	1 0	2/6 Dec,'87	0 19 0	184,890	Queenslnd	Blomfield House. E.C
DayDawn B.&W.*G*	12/- 13/-	11/6 12/6	1 0	-/6 Mar. 93	1 0 0	498,400	Queenslnd	3-5, Gracechurch-st.
Day Dawn P. C. *G*	5/- 5/6	4/9 5/3	1 0	-/6 Apr,'92	1 0 0	490,000	Queenslnd	Winchester Ho., E.C
Eaglehawk.........*G*	1/6 2/-	1/6 2/	1 0	—	0 19 9	120,000	Victoria..	31, Lombard-street.
Empress Coolge. *G*	¼ ⅛ dis.	¼ ⅛ pm	1 0	—	0 10 0	90,000	Coolgardie	2, Tokenhouse bldgs
Eng. & Aus. Cop. *Cu*	1/16	1/16	2 0	2% 1883	1 17 6	70,000	S. Austral.	136, Palmerston-blds
Frederick the Gt *G*	—	—	1 0	—	1 0 0	125,000	Victoria...	St. George's House.
Glenrock .... *G*	1/6 2/-	1/9 2/	1 0	—	1 0 0	225,000	N.Zealand	3-5, Queen-st. E.C.
Golconda ....*G*	23/9 26/3	1 1/16 1 3/16	1 0	—	1 0 0	68,086	Murchison	Winchester House
Gold Estates......	1 5/16 1 7/16	1 1/16 1 3/16	1 0	—	0 10 0	60,000	W. Austral	42, Gresham House.
Great Boulder ...*G*	23/9 25/	1⅛ 1¼	1 0	—	1 0 0	119,380	Yilgarn ..	3, Gracechurch st.
Great Coolgardie...	5/16 7/16	5/16 7/16	1 0	—	0 15 0	85,000	Coolgardie	3. Budge Row.
Great Fingall Rfs.	2⅛ 2¼	2 2¼	1 0	—	1 0 0	175,000	Kurnalpi	Broad Street House.
Golden Gate......*G*	2/6 2/6	2/6 3/	0 10	—	0 10 0	150,000	Queenslnd	9, Tokenhouse Yard.
Hampton Lands...	4⅛ 4⅞	4 4⅛	1 0	10/- Nov. '94	1 0 0	64,075	Coolgardie	1, Whittington Avue
Hampton Plains...	2 3/16 2 5/16	2 1/16 2 3/16	1 0	—	0 4 0	350,000	Coolgardie	29, S. Swithin's lane
HamptonPlainsEx	5/6 6/6	5/9 6/3	1 0	—	0 18 0	180,000		Suffolk House, E.C
Hannan's BrwnHil	1⅜ 1½	1⅜ 1⅛	1 0	—	1 0 0	65,000	Coolgardie	Broad Street House.
Hauraki............ *G*	11/6 12/6	13/6 14/6	2/6	—	0 0 6	250,000	Coromndl.	Dashwood Ho.; E.C.
Kaboonga ....*G*	4/ 4/6	4/ 4/6	0 10	—	0 9 9	500,000	Queenslnd	70-71, Bishopsgate st.
Kangarilla ....*S*	7/ 8/	7/ 8/	1 0	—	1 0 0	88,275	So. Austral	68, Coleman street.
Kapanga............*G*	16/ 17/	⅞ 1	1 0	-/6 Jan. '91	0 19 6	250,000	N.Zealand	9, New Broad-street.
Kilkivan............*G*	—	—	1 0	—	1 0 0	81,392	Queenslnd	4, Coleman-street.
Kinsella ....*G*	1⅛ 1¼	1 3-16 1 5/16	1 0	—	1 0 0	80,000	Murchison	33, Broad-st. Avenue
Kurnalpi............*G*	11/ 12/	11/ 12/	1 0	—	—	—	Coolgardie	Throgmorton House
Lady Loch......	⅛ ¾	⅞ 1	1 0	—	0 10 0	70,000	Coolgardie	9, Tokenhouse Yard.
Lady Mary Amalg.	1⅜ 1½	1½ 1⅝	1 0	—	1 0 0	46,000	Murchison	Blomfield House.
Lindsay	3/16 1/16 dis.	3/16 1/16 dis	1 0	—	0 10 0	65,000	Coolgardie	Copthall House
Londonderry..... *G*	11/3 13/9	9/16 11/16	1 0	—	1 0 0	467,000	Coolgardie	3, Gracechurch-st.
L.& W. Aust. Expl.	2⅝ 2⅞	2 3/16 2 5/16	1 0	10 p.c. Dec. '94	1 0 0	100,000	W. Austral	Broad Street Ho.
Mainland Cons. *G*	3/16 5/16 pm.	3/16 5/16 pm	1 0	—	0 15 0	150,000	Murchison	4, Old Broad Street
Mawson's Rewrd. *G*	20/ 22/6	⅞ 1	1 0	—	0 10 0	60,000	W. Austral	28 & 29 S Swithin's ln
Mills' Day Dawn *G*	1⅜ 1½	1 7/16 1 9/16	1 0	-/6 Apr.'95	0 15 6	300,000	Queenslnd	3, Gracechurch-st.
Mosman ....*G*	8/3 8/9	7/- 8/	1 0	—	1 0 0	88,225	N.S Wales	16, St. Helen's-place.
Mt. Leyshon ...... *G*	—	—	1 0	-/6 Dec. '90	1 0 0	157,989	Queenslnd	7, Draper's-gardens.
Mount Morgan *G*	2⅜ 2¾ xd	2⅜ 2⅝	1 0	-/5 May, 95	0 17 6	1,000,000	Queenslnd	50, Lime-street.
Mount Zeehan *SL*	-/6 1/-	-/6 1/	1 0	—	1 0 0	193,257	Tasmania	Mansion Ho. Cham.
N. Australian G. F.	19/- 20/-	19/ 20/	1 0	—	1 0 0	20,000		7, Union Court.
New Queen ....*G*	8/- 8/6	7/6 8/6	1 0	-/6 Mar.,'95	0 19 6	158,915	Queenslnd	30, St. Swithin's-la.
Nicol Mines	1 1¼	1 1¼	1 0	—	1 0 0	15,000	Pilbarra ...	151, Cannon St., E.C.
North Coolgardie..	3/ 3/6	3/- 3/6	0 5	—	0 4 0	85,000	Coolgardie	226, Winchester Ho.
N. Q'ld. & Agency	1 13/16 2 1/16	1 15/16 2 1/16	1 0	2/6 Jan. '95	1 0 0	90,000	Queenslnd	10 New Broad Street
Queen's Bthdy Un.	12/6 13/6	12/6 13/6	1 0	—	0 12 6	75,000	Victoria...	7-8, Gt. Wnchster St.
Sam's Witb. of Nat.	3/6 4/6	4/ 5/	1 0	—	0 18 0	200,000	W. Austral	33, Old Broad Street.
Scottish Australian	⅝ ⅞	⅝ ⅞	1 0	14-5d. Nov.'94	1 0 0	200,000	N.S Wales	Winchester Ho. E.C.
Victoria Associatn.	—	—	1 0	-/6 May,'95	1 0 0	144,000	Chr. Tow.	6, Crosby-square
Victory............ *G*	6/6 7/6	7/ 8/-	0 5	-/3 Mar.,'94	0 5 0	200,000	Queenslnd	32, Gresham-st., E.C
Waihi................ *G*	7⅜ 7⅝	7¾ 8	1 0	2/- Jan,'95	1 0 0	150,000	N.Zealand	11, Abchurch-ln. E.C
Waratah............ *G*	9/- 10/-	9/- 10/	0 10	—	0 10 0	6,000	Crydn, NZ	43, Threadneedle st.
Wentworth Exten.	5/- 6/-	6/- 7/-	0 5	—	0 5 0	178,828	N.S Wales	19, S. Swithin's Lane
Wentworth Ord.*G*	1 1/16 1 3/16	1 1⅛	1 0	—	1 0 0	350,000	N.S Wales	4-6, Throgmort. Av.
Went. Priority...*G*	1⅛ 1⅜	1¼ 1⅜	1 0	5/- May '95	1 0 0	150,000	N.S Wales	4-6, Throgmort. Av.
W. Argentine ... *G*	1/3 1/9	1/3 1/9	1 0	—	0 19 6	150,000	N.Zealand	3-5, Queen-street.
W. Aust. Concessn	1 11/16 1 13/16	1¾ 1⅞	1 0	1/- Jan. '95	1 0 0	17,500	W.Austral	33, Old Broad st., EC
W. Aus. Exploring	9/16 11/16 pm.	1⅛ ⅛pm	1 0	—	0 15 0	200,000	W Austral	54, Old Broad st., EC
W. Australian G.F.	3 11/16 3 13/16	3½ 3⅞	1 0	2/6 Dec., 94	1 0 0	65,000	Coolgardie	28-29, S. Swithin's-ln.
W. Aust. Mining	6/6 6/6	6/9 6/3	1 0	—	1 0 0	104,297	W. Austral	257, Winchester Ho.
W. Mallina .... *G*	2/9 3/3	2/6 3/	0 5	—	0 3 0	80,000	Pilbarra ...	Winchester House.
White Feather ...	2⅛ 2⅜	1 13/16 2 1/16	1 0	—	1 0 0	60,000	Coolgardie	28 & 29, S. Swithin's ln
Zapopan............*G*	8/6 9/6	10/6 11/6	1 0	—	1 0 0	25,000	NW Austral	70, Bishopsgate-street
Zeehan Montana *S*	—	—	1 0	4d. Mar. 93	1 0 0	66,000	Tasmania	11, Queen Victoria st
Zeehan Montana *S*	—	—	1 0	6d Aug., 94	0 12 6	12,600	Tasmania	11, Queen Victoria st

EUROPEAN MINES.

Name.	Closing Price, May 3, 1895	Closing Price, Apr. 26, 1895.	Am't. of Share	Latest Dividend.	Called up per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
			£ s.		£ s. d.			
Alamillos ....*L*	10/- 15/-xd	10/-15/ xd	2 0	-/6 April '95	2 0 0	35,000	Spain	6, Queen-street-place
Avala ....*Q*	0 ⅛	0 ⅛	1 0	1/- May '93	1 0 0	51,584	Servia......	4, Tokenho. Bldgs.
Consett Ore	5⅛	5⅛	1 0	5/- July 94	1 0 0	55,200	Spain	19, Grey-st.. N'castle
English Cr. Spelter	⅜ ⅝	⅜ ⅝	1 0	2½% Aug.'94	1 0 0	84,000	Lombardy	9, Queen-street-place
Fortuna ....*L*	17/6 22/6xd	⅞ 1⅛ xd	2 0	1/- April '95	2 0 0	25,000	Spain	6, Queen-street-place
Libiola..............*C*	3 3⅛	3¼ 3⅛	5 0	4/6 Apr. 95	5 0 0	50,400	Italy	Dashwood Ho., E.C.
Linares ....*L*	3⅞ 4⅛	3¾ 4⅛xd	3 0	4/6 April '95	3 0 0	14,998	Spain	6, Queen-street-place
Mason & Barry...*C*	1⅝ 1¾	2⅛ 2⅜	5 0	2/- May. '94	5 0 0	185,172	Portugal	87, Cannon-street.
Oscar ....*G*	—	—	5 0	—	0 4 6	117,240	Norway ...	6A, Austin Friars.
Pestarena ....*G*	8/- 9/-	7/ 8/	3 0	—	3 0 0	67,809	Italy	6-7, Queen-street-pl.
Pontgibaud ....*SL*	—	—	20 0	11/6 Dec. '94	20 0 0	14,000	Coueron...	6-7, Queen-street-pl.
Rio Tinto ....*C*	14 11/16 14 13/16	13 15/16 14	10 0	4/- Oct.,'94	10 0 0	325,000	Spain	30, St. Swithin's-lane
Do. (Mort. Bonds)	104 106	104 106	100 0	5% Apr. '95	100 0 0	£1892,740	Spain	30, St. Swithin's-lane
Do. (2nd do.)	102 104	102 104	100 0	5% Apr. '95	100 0 0	£1024,860	Spain	30, St. Swithin's-lane
Do. (3rd do.)	101 103	100 102	100 0	5 p.c. Apr. 95	100 0 0	[illegible]	Spain	30, St. Swithin's lane
Ripanji ....*SQ*	11/- 12/-	10/- 12/	1 0	—	0 19 0	95,000	Servia......	120, Bishopsgt-st. Wn
Tharsis...... ..*C Sul*	4⅜ 4⅝	4½ 4¾	2 0	10% Apr. '94	2 0 0	625,000	Spain	Glasgow.
West Prus Pre.pref	—	—	10 0	8% Mar. 95	10 0 0	365	Germany	Walbrook Ho., E.C.
West Prussian Pre.	—	—	10 0	8% Mar. '95	10 0 0	5,450	Germany	Walbrook Ho., E.C.
West Prussian Or.	—	—	10 0	8% Mar. '95	10 0 0	14,050	Germany	Walbrook Ho., E.C.
Wohlfahrt ....*L*	—	—	1 0	3% Dec. '94	1 0 0	99,634	Prussia ...	17, Victoria-st., S.W.
Wohlfahrt	—	—	1 0	3% Dec. '94	0 10 0	9,090	Prussia ...	17, Victoria-st., S.W.

INDIAN AND ASIATIC MINES.

Name.	Closing Price, May 3, 1895	Closing Price, Apr. 26, 1895.	Am't. of Share	Latest Dividend.	Called up per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Asia Minor Pref. *Sl.*	—	—	0 10	—	0 10 0	42,430	Asia Minr	2, Metal Ex. Bldgs.
Do. Ord. ...	—	—	0 10	—	0 10 0	69,838	Asia Minr	2, Metal Ex. Bldgs.
Balaghat Mysore *G*	4/ 4/6	4/ 4/6	1 0	—	0 19 0	159,945	India	6-7, Queen-street-pl.
Burma Ruby.......*R*	19/- 21/-	21 22	1 0	—	0 18 0	298,551	Burmah...	Suffolk House, E C.
ChampionReef...*G*	4 7/16 4 9/16	4½ 4⅝xd	1 0	4/- Apr. '95	1 0 0	200,000	India	6-7, Queen-street-pl.
Colar Central ...*G*	1/6 2/-	1/6 2/	1 0	—	1 0 0	200,000	India	Dashwood Ho., E.C.
Coromandel...... *G*	11/3 13/9	7/16 9/16	1 0	—	0 15 0	95,000	India	6-7, Queen-st.-place.
GoldFldsMysore *G*	27/6 28/6	29/6 30/6	1 0	1/- July '92	1 0 0	275,000	India	6-7, Queen-street pl.
Gold Flds Siam *G*	—	—	1 0	—	1 0 0	150,000	Siam	19, St. Swithin's-lane.
Hyderabad Dec. ..	8⅝ 8⅞	9 9¼	10 0	—	10 0 0	115,000	Deccan ...	16, St. Helen's-place.
Kempinkote GdFd	2/9 3/3	2/9 3/3	0 5	—	0 3 6	750,000	India	6-7, Queen-st.-place.
Mysore .... *G*	2 13/16 3 1/16	2 13/16 3 1/16	1 0	2/- Feb,'95	1 0 0	248,354	India	6-7, Queen-street pl.
My. Harnhalli ...*G*	3/9 4/3	3/9 3/9	1 0	—	0 18 0	100,007	India	2, East India Avenue
Mysore Reefs ...*G*	6/6 7/6	6/6 7/6	1 0	—	1 0 0	160,000	India	6-7, Queen-street-pl.
Mysore West(N)*G*	22/- 23/-	20/ 21/	1 0	—	0 19 0	127,408	India	Dashwood Ho., E.C.
Mysore Wynaad *G*	22/- 23/-	20/ 21/	1 0	—	0 19 0	125,000	India	Dashwood Ho., E.C.
Nine Reefs ......*G*	3/6 4/6	3/- 3/6	0 10	—	0 10 0	250,000	India	6-7, Queen-street-pl.
Nundydroog......*G*	2 2⅛	2 13/16 2 5/16	1 0	1/6 Mar. '95	1 0 0	200,000	India	6-7, Queen-street-pl.
Ooregum (Df.O.)*G*	3⅛ 3¼	3⅛ 3⅜ xd	1 0	2/6 Apr. '95	1 0 0	145,000	India	6-7, Queen-street-pl.
Do. (10% Pref.).	3 15/16 4 1/16	4 4⅛xd	1 0	2/6 Apr. 95	1 0 0	107,011	India	6-7, Queen-street-pl.
Do. (10% Pref.).	3⅜ 3⅝xd	3⅜ 3⅝xd	1 0	2/6 Apr,'95	0 5 0	12,989	India	6-7, Queen-street-pl.
Pahang Kabang *T*	⅜ ⅝	⅜ ⅝	1 0	—	1 0 0	200,000	Malay Pn.	4a, Jeffrey's sq., E.C
S. Aust. Petroleum	1/6 2/-	1/6 2/	1 0	—	0 18 6	108,000	Burmah...	12, Pancras Ln., E.C.
Straits Developmt.	2 9/16 2 11/16	2 9/16 2 11/16	1 0	—	0 19 0	184,292	Pahang ...	15, Copthall Avenue.
Yerrakonda ......*G*	2/6 3/-	3/- 3/6	0 4	—	0 2 6	187,491	Mysore ...	6-7, Queen-street-pl.

NORTH AMERICAN MINES.

Name.	Closing Price, May 3, 1895	Closing Price, Apr. 26, 1895.	Am't. of Share	Latest Dividend.	Called up per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Alaska Mexican...*G*	13/16 15/16	1 1⅛	$5	7 1-5d. Apr. 95	$5	160,000	Alaska.....	30, St. Swithin's-ln
Alaska Treadwell *G*	3⅛ 3⅜xd	3⅛ 3⅜	$25	1/6 Jan., '95	$25	200,000	Alaska....	30, St. Swithin's-ln.
Almada and T....*S*	-/9 1/-	-/9 1/	2/6	—	0 2 6	351,008	Mexico ..	6, Queen-street-place
American Belle...*S*	2/- 2/6	2/ 2/6	1 0	-/6 Mar.'91	1 0 0	398,890	Colorado	25A, Old Broad-street
Anglo Mexican ...*S*	—	—	5 0	3/- Jan. '90	5 0 0	74,850	Mexico ..	23, College Hill.
Arizona (Pref.) *Cu*	20/6 20/9	19/9 20/-	4 0	—	4 0 0	158,920	Arizona..	74, Geo.-st., Edinbor
Do. 6½ A Deben.	94	93 95	100 0	—	100 0 0	£135,300	Arizona..	74, Geo.-st., Edinbor
Do. 7% B Deben.	81½	79	100 0	—	100 0 0	£181,300	Arizona..	74, Geo. st. Edinbor
Big Creek ..... *Ay.*	2/6 3/6	2/6 3/6	1 0	1/- Dec. '91	1 0 0	80,000	Nevada ..	11, Queen Victoria-st.
California .... *G*	—	—	0 10	-/6 May 90	0 10 0	621,808	Colorado	St. George's Ho. E.C.
Colorado Boy......*S*	—	—	1 0	—	1 0 0	112,492	Colorado	1, Poultry, E C.
Cortez ....*S*	—	—	1 0	3% Feb.'93	1 0 0	300,000	Nevada ..	Suffolk House, E.C.
Decatur.............*Sl.*	—	—	1 0	—	1 0 0	32,500	Colorado	35, Queen Victoria-st.
Do......... (Pref.)	—	—	1 0	—	1 0 0	12,500	Colorado	35, Queen Victoria-st
De Lamar.........*GS*	28/6 29/6	29/- 30/-	1 0	1/- Apr., '95	1 0 0	400,000	Idaho.....	6, Draper's-gardens.
Dickens Custer *GS*	1/9 2/3	1/9 2/-	1 0	—	0 19 9	420,000	Idaho....	Winchester Ho. E.C
Elkhorn ....*S*	9/- 10/-	10/6 11/	1 0	-/6 May '95	1 0 0	175,007	Montana	6, Draper's-gardens.
Emma ....*S*	/9 1/3	-/9 1/3	0 5	—	0 5 0	403,618	Utah	15, Geo-st, Mansn. Ho
Flagstaff ....*S*	—	—	1 0	—	0 18 9	240,000	Utah	Dashwood Ho., E.C.
Fisk.................. *G*	—	—	1 0	6d May, 94	1 0 0	134,000	Colorado	5, Fenchurch st.
Garfield .. ..*GS*	—	—	1 0	-/6 Dec. '88	0 19 6	98,185	Nevada ..	Suffolk House, E.C.
Gen. M'g. Assoc. ...	6 6¼ xd	—	5 10	14/- Apr. 95	5 10 0	27,469	C. Breton	Blomfield House
Golden Feather *G*	10/ 11/	9/6 [illegible]	1 0	—	1 0 0	180,000	California	S. Stephens Cs E.C.
Golden Gate ......*G*	4/- 5/-	4/- 5/	1 0	—	0 19 6	79,600	California	St. Stephens Cs E.C.
Golden Leaf...... *G*	4/3 4/9	3/- 3/6	1 0	—	1 0 0	300,259	Montana	8, Draper's Gardens.
Golden Valley...*G*	1/3	1/3	1 0	—	0 19 0	55,507	Colorado	15, Angel Court.
Harquahala... .. *G*	2/6 3/6	3/7 4/5	1 0	-/6 Oct., '94	1 0 0	300,000	Arizona ...	6, Draper's Gardens.
Ho'comb Valley *G*	3/3 3/9	3/ 3/6	0 5	—	0 5 0	540,000	California	14, Cornhill, E.C.
Idaho...............*GS*	4/9 5/3	4/6 5/	0 5	-/2 Dec. 94	0 4 8	143,439	Idaho ..	140, Leadenhall-st.
Jackson Goldfields	1/7½ 1/10½	1/9 2/	5 0	—	0 5 0	408,635	California	11, Poultry, E.C.
Jay Hawk (New)*G*	3/6 4/-	3/6 4/	1 0	-/6 Dec. '92	0 19 3	285,000	Montana	Dashwood House.
La Plata.............*S*	2/9 3/3	2/7½ 2/10½	0 5	1/3 Oct. '82	0 4 6	405,000	Colorado	11, Poultry, E.C.
La Yesca ....*GS*	8/ 9/	8/ 9/	1 0	—	0 19 0	175,015	Mexico ..	20, Bucklersbury, EC
Maid of Erin ...*S*	4/6 5/6	4/6 5/6	1 0	4c. p sh Sept'94	1 0 0	575,000	Colorado	43, Threadneedle-st.
Mammoth Gold ...	—	—	1 0	—	1 0 0	400,000	Pnal, Ariz.	257, Winchester Ho.
Mesq. d'l Oro (P) *G*	—	—	5 0	—	5 0 0	10,000	Mexico ...	Dashwood Ho., E.C.
Mesq. d'l Oro (D) *G*	—	—	5 0	—	5 0 0	10,000	Mexico ..	Dashwood Ho., E.C.
Montana .... *GS*	11/6 12/6 xd	11/6 12/6	1 0	-/3 Apr. '95	0 19 0	657,158	Montana	Gresham House, E.C.
New Colorado ...*S*	—	—	1 0	—	0 17 0	65,000	Colorado	Abchurch Cham. E.C
N. Consolidated *SC*	—	—	0 5	—	0 3 6	248,576	Nevada ..	15, Angel-court, E.C
N. Gold Hill......*G*	1/- 1/6	-/3 /6	1 0	—	0 19 9	191,045	N Carolina	15, George-st., E.C.
New Guston ......*S*	10/- 12/6	9/16 11/16	1 0	1/- Oct. '92	1 0 0	110,000	Colorado	25A, Old Broad-st.
New Hoover Hill *G*	-/3 -/6	-/3 /6	0 10	-/9 Dec. '85	0 10 0	120,000	N Carolina	Langthorne Ho., E.C.
Palmarejo .... *GS*	2/6 3/-	3/3 3/9	1 0	—	1 0 0	418,888	Mexico ...	4, Copthall-building
Pinos Altos(Df)*GS*	6/6 7/6	6/- 7/	1 0	-/6 Mar.' 90	1 0 0	100,000	Mexico ...	110, Cannon-street.
Do. 15% Cum Pref	—	—	1 0	—	1 0 0	60,000	Mexico ...	110, Cannon street.
Pittsbg Con. (N) *G*	—	—	1 0	1/6 Mar. '88	0 19 0	77,147	Nevada ...	Suffolk House, E.C
Poorman Con. *GS*	2/6 3/-	2/6 3/	0 5	—	0 5 0	273,948	Idaho	5, Copthall-b'gs. E.C
Red Mountain ...*S*	—	—	1 0	—	1 0 0	46,636	Colorado	11, Poultry, E.C.
Richmond ...*GSL*	10/ 12/6	7/16 9/16	5 0	1/- Nov. '94	5 0 0	54,000	Nevada ...	44, Coleman-street.
Sierra Buttes ...*G*	10/ 12/ xd	¼ ⅜xd.	2 0	-/6 Apr. '95	2 0 0	122,500	California	138, Leadenhall-st.
Do. Plumas Eur. *G*	12/6 15/ xd	⅝ ¾xd.	2 0	-/9 Apr. '95	2 0 0	140,265	California	138, Leadenhall-st.
Springdale.........*G*	3/6 4/-	3/9 4/	$1	2d Aug., 94	$1	1,000,000	Colorado	20, Abchurch Lane.
Twin Lake Placers	1⅛ 1¼	1⅛ 1¼	1 0	3/- Feb. '95	1 0 0	26,000	Colorado	5, Lawrence P. Hl. E.C
United Mexican *S*	⅛	⅛	1 0	2/6 May, '87	1 0 0	906,654	Mexico ...	3, Gt. Winchester-st.

SOUTH AND CENTRAL AMERICAN MINES.

Name.	Closing Price, May 3, 1895	Closing Price, Apr. 26, 1895.	Am't. of Share	Latest Dividend.	Called up per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Anglo-Chilian Pl *N*	7¼ 8	7¼ 8	10 0	4/5 Dec. '89	10 0 0	35,000	Antofagst.	123, Bishops.-st. W.
Do. 6% RylstMB	99 101	99 101	100 0	6% Jan.,'95	100 0 0	£200,000	Antofagst.	123, Bishops.st. W.
Antio. (Pref.) *G.S.*	—	—	1 0	-/6 Mar. '90	1 0 0	22,823	Colombia	184, Gresham Ho.
Antioquia (ordiny)	—	—	1 0	—	1 0 0	42,453	Colombia	184, Gresham Ho.
Caratal........... *G*	1/3 1/9	1/3 1/9	2/6	—	0 2 6	1,330,000	Venezuela	57, Moorgate-st. E.C
Caylloma............*S*	1⅜ 1⅝	1⅜ 1⅝	2 0	1/- Apr. 94	2 0 0	125,000	Peru	52, Leadenhall street
Colon ....*G*	1/3 1/9	1/3 1/9	0 5	—	0 4 0	200,000	Colombia	5, Copthall-bdgs., E.C.
Colorado Nit. ...*N*	2 2½	2⅛ 3	5 0	6% Nov.,'94	5 0 0	32,000	Chili	12, King-st., Liverp'l
Colombia...... ......*G*	—	—	20 0	10 frs. Aug. 94	20 0 0	—	Venezuela	Ciudad Bolivar.
Colombian Hy...*G*	11/6 12/6	11/- 12/-	1 0	1/- Sept. '94	1 0 0	75,000	Colombia	10, Blomfield-street.
Copiapo ....*C*	1⅝ 1⅞	1 11/16 1 13/16	2 0	1/- Dec. '94	2 0 0	100,000	Chili	Dashwood House, E.C
Darien "A" ......*G*	3¼ 3⅜	3⅜ 3⅝	1 0	—	1 0 0	49,553	Colombia	Manchester.
Don Pedro.........*G*	9/6 10/6	9/ 10/	1 0	—	0 18 6	133,102	Brazil......	24-5, Devonsh.Cs E.C
El Callao ....*G*	10/- 15/-	⅜ ⅝	5 0	9½d Feb. '94	5 0 0	267,600	Venezuela	8, Bishopsgt.-st. Wn
Frontino & B....*G*	1 5/16 1 7/16	1 5/16 1 7/16	1 0	1/- Mar. '95	1 0 0	128,662	Colombia	184, Gresham House
Glenrock ....*G*	1/6 2/-	1/9 2/	1 0	—	1 0 0	199,948	Arg. (& I.)	3-5, Queen-street, E.C
Gravel..................*G*	4/- 5/-	4/ 5/	1 0	—	0 18 6	100,000	Colombia	10, Blomfield-street.
Guadalupe ......*GS*	3/6 5/-	3/6 5/	1 0	—	1 0 0	180,000	Honduras	114, Unicnst. Old Bd. st

"THE MINING JOURNAL" SHARE LIST—(Continued)

SOUTH AND CENTRAL AMERICAN MINES—(Continued).

Name.	Closing Price. May 3, 1895	Closing Price Apr. 26, 1895.	Am't. of Share	Latest Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
			£ s.		£ s. d.			
Huanchaca ....S	—	—	5 0	4/- Sept. '94	5 0 0	320,000	Bolivia ...	10, Avnu. d'Alma, Paris
Javali ....G	-/6 1/6	-/6 1/6	0 2	8½ % '91	0 2 0	105,234	Nicaragua	139, Cannon-street.
Julia Taltal ......N	9/16 11/16	9/16 11/16	1 0	—	1 0 0	200,000	Chili	79½, Gracechurch-st.
Lagunas ......N	6⅛ 6⅜	6⅜ 6⅝	5 0	15p.c. Dec.'94	5 0 0	120,000	Tarapaca	3, Gracechurch st.
Lautaro .....N	7¾ 8¼	8 8⅛	5 0	7/6 Dec. 94	5 0 0	110,000	Chili	70, Gracechurch st.
Liverpool .....N	11 12	11 12	5 0	10 p c Dec. 94	5 0 0	22,000	Chili	Liverpool.
Loma .....G	1/9 2/3	1/6 2/	1 0	—	1 0 0	300,000	Colombia	5, Copthall-building.
London Nit......N	1⅝ 2¼	1⅝ 2¼	3 0	3/4¾ Nov. '89	5 0 0	10,000	Chili	9, Gracechurch-st
London Nit.(Pref.)	3½ 4	3½ 4	5 0	8% Nov. '94	5 0 0	22,000	Chili	9, Gracechurch-st
Macate	3/- 3/6	3/- 3/6	0 2	—	0 2 0	200,000	Peru	11, Old Broad-st, E.C
New Tamarugal N	⅜ ½	7/16 9/16	1 10	1s. Dec. '94	1 10 0	130,000	Tarapaca	50, Lime-street, E.C
Do. 8 % Cum Pref	⅞ 1	15/16 1 1/16	1 10	8 p.c. Feb. '95	1 10 0	130,000	Tarapaca	50, Lime-street, E.C
Do 6 p.c. Debs ...	88 92	88 92	100 0	6 p.c. Feb. '95	100 0 0	£260,000	Tarapaca	50, Lime-street, E.C
Orita ....G	1/- 1/6	1/6 2/	1 0	1/- April '89	1 0 0	30,000	Colombia	10, Blomfield-street.
Ouro Preto ......G	—	—	1 0	—	1 0 0	80,000	Brazil	6, Queen-street-place
Pac. & Jazpampa N	3¼ 3¾	3¾ 4¼	5 0	5/- Aug. '94	5 0 0	72,000	Tarapaca	3, Gracechurch-st.
Primitiva .....N	1¼ 2	1½ 2	5 0	20% Oct. '89	5 0 0	40,000	Chili	Liverpool.
Quebrada C	3/- 5/-	⅛ ¼	3 0	5% Mar. '92	3 0 0	241,956	Venezuela	38, Nicholas Lane.
Quebrada C	—	—	8 k.	6% Feb., 94	100 0 0	£400,000	Venezuela	38, Nicholas Lane.
Rosario .....N	5 5⅛	5 5⅛	5 0	7/6 Feb. '95	5 0 0	120,000	Chili ...	57½, Old Broad-street
Rosario (5% Deb.)	103 105	103 105	100 0	5% April '95	100 0 0	£475,000	Chili	57½, Old Broad-street
St. John del Rey G	28/ 30/	1⅜ 1½	1 0	10% June '82	1 0 0	323,190	Brazil	Finsby. Ho., Blmf'd st
San Donato ...N	2⅛ 2⅜	2¼ 2¾	5 0	—	5 0 0	32,000	Chili	12, King-st., Liverp
San Jorge .....N	6 6½	6 6½	5 0	7/6 Sept. '94	5 0 0	75,000	Chili	9, Gracechurch-st.
San Pablo .....N	2 2⅛	2 2⅛	5 0	2½% Nov., '94	5 0 0	32,000	Chili	Gracechurch-st
Santa Barbara ...G	—	—	0 10	1/3 Dec. '86	0 10 0	60,000	Brazil	Liverpool
Santa Elena ......N	½ ¾	½ ¾	5 0	5/- Oct. '94	5 0 0	22,000	Tarapaca	3, Gracechurch-st.
Santa Rita .....N	4 4½	4 4½	5 0	15% Apr., '94	5 0 0	20,000	Chili	Dashwood House, E.C
San Sebastian ...N	1⅜ 2⅝	2 2⅝	5 0	5/- Dec. '94	5 0 0	29,000	Chili	Dashwood House, E.C
Segovia .....G	—	—	5/-	—	0 5 0	120,000	Colombia	5, Copthall-buildings
S cie Pref.......G	—	—	1 0	10% Dec. '94	0 15 0	840	Colombia	23, St. Swithin's ln.
Sucre Ord......G	—	—	1 0	6% Dec. '94	1 0 0	10,000	Colombia	23, St. Swithin's ln.
Tolima "A" .....S	7½ 8xd	7½ 8xd.	5 0	10/- Apr., '95	5 0 0	14,000	Colombia	18, Finsbury-circus.
Do. "B" .....S	6½ 7 xd	6¾ 7¼xd.	5 0	10/- Dec., '94	5 0 0	6,000	Colombia	18, Finsbury-circus.
Vic. & Altamira ...	3/3 3/9	2/6 3/	0 5	—	0 5 0	200,000	Venezuela	Broad-st. Avenue.
West Indian......G	—	—	0 1	—	0 1 0	1,725,585	Singo.Dm	110, Cannon-street.

AFRICAN MINES.

Name.	Closing Price. May 3, 1895	Closing Price Apr. 26, 1895.	Am't. of Share	Latest Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
Abercorn Reef ...G	-/9 1/3	—	0 5	—	0 4 0	—	Millwood	16, Tokenhouse Yard
African Alluvial ...	1 7/16 1 9/16	—	1 0	—	1 0 0	130,000	Mozambiq	11, Poultry.
African Alluvial ...	12/ 12/6	—	1 0	—	0 3 6	20,000	Mozambiq	11, Poultry.
African Coal	7/6 8/6	7/9 8/3	1 0	—	0 16 6	300,000	Middlebrg	19, St. Swithin's-lane
African Gold Con.	3/- 4/-	3/6 4/	0 10	20 p.c. Jan.'95	0 8 0	300,000	Mossel By	16, Tokenhouse-yard
African Gold Ryco.	1 1/16 1 3/16	—	1 0	2/- Oct. 94	1 0 0	175,000	—	23, College Hill.
Afrikander ......G	2⅜ 2⅝	1⅜ 1¾	1 0	—	1 0 0	40,000	Transvaal.	19, St. Swithin's-lane
Agnes Block......G	12/6 15/	9/16 11/16	1 0	—	1 0 0	78,507	Transvaal.	54, Old Broad-street
Alexandra EstateG	17/ 18/	16/6 17/6	1 0	—	1 0 0	225,000	Rand	Warnford Court, EC.
Anglo-French Exp.	3¾ 4	4 1/16 4 5/16	5 0	10% Dec. 94	5 0 0	30,300	S. Africa	170, Winchester Ho.
Appantoo .....G	—	—	1 0	—	1 0 0	77,885	West Cost	Dashwood House.
Aurora.......G	22/ 24/	1⅛ 1¼	1 0	5% Mar. '93	1 0 0	65,000	Rand	8, Old Jewry.‡
Balkis EerstelingG	4/ 5/	5/3 5/9	0 10	—	0 10 0	520,000	Transvaal.	85, Gracechurch-st.
Balkis Land	5/9 6/3	6/- 6/6	0 10	—	0 10 0	520,000	Transvaal.	85, Gracechurch-st.
Banket.......G	10/ 11/	8/6 9/6	1 0	—	1 0 0	200,000	Rand	Johannesburg.
Bantjes Reef .....G	3 15/16 4 1/16	3 15/16 4 1/16	1 0	—	1 0 0	83,000	Rand	Warnford-court.†‡
Barrett.......G	14/- 15/	10/- 10/6	0 10	—	0 9 0	207,496	De Kaap	17, Basinghall-street
Bechuanaland Exp.	2⅛ 2⅜	2⅜ 2¾	1 0	1/- Mar. 95	1 0 0	200,000	Bechuana.	19, St. Swithin's-lane
Bech. Trad'g Assoc.	1 7/16 1 9/16	—	1 0	10 p c May, 95	1 0 0	100,000	Bechuana.	19, St. Swithin's-lane.
Big Golden Quarry	2/3 2/9	2/3 2/9	5/-	—	0 5 0	483,226	Kaap Rivr	4, Bishpsgte. st. Wn.
Block "B" Lang.	23/ 24/	23/6 24/6	1 0	—	1 0 0	535,000	Rand	6, Princes-st. E.C.
Boovsen Land .G	3⅜ 3⅝	2⅛ 2⅝	1 0	—	0 12 0	95,000	Transvaal.	4, Tokenhouse-blds
Brit. S. A. Char. ..	4⅛ 4⅜	4 9/16 4 11/16	1 0	—	1 0 0	2,000,000	S. Africa	19, St. Swithin's-lane
Buffelsdoorn......G	5⅝ 6	5 13/16 6 1/16	1 0	—	1 0 0	250,000	Potchefstr	7, Lothbury.
Bulawayo Synd. ...	⅞ 1pm	⅞ 1pm	1 0	—	1 0 0	12,000	Matabele.	10, Helen's Place.
Cape Asbestos	2 7/16 2 9/16	2⅛ 2⅝	1 0	—	1 0 0	50,311	Orange Rv	19, St. Swithin's-lane
Cape Copper C	1 11/16 1 13/16	1 11/16 1 13/16	2 0	1/3 Dec. '94	2 0 0	300,000	Cape Col.	9, Queen-street-place.
Do. 6 % Pref. ...	2 2¼	2 2¼	2 0	1/3 Dec. '94	2 0 0	45,000	Cape Col.	9 Queen-street-place
Cassel Colliery......	4⅝ 5⅛xd	4¾ 5⅛xd.	1 0	10pc Dec. '94	1 0 0	75,000	Johanbrg.	99, Cannon-street.
Cen. Montrose...G	6/- 7/-	1/- 2/	1 0	—	0 18 6	69,000	Transvaal.	15, George st. Mn. Ho.
Champ d'Or.....G	4⅛ 4⅜	4¼ 4⅛	1 0	4/- Jan. 95	1 0 0	116,016	Rand	8, Old Jewry, E.C.
Champ d'Or DeepG	1 15/16 2 1/16	2 1/16 2 5/16	1 0	—	1 0 0	117,499	Rand	8, Old Jewry, E.C.
City and Suburb.G	26¾ 27¼	26 26⅛	1 0	25% Mar. '95	1 0 0	75,000	Rand	98, Gresham Ho., E.C
Coetzeestroom ...G	13/ 14/	7/6 8/6	0 5	—	0 5 0	140,000	De Kaap	105, Leadenhall-street
Con. Buitfontein D	28/ 29/	28/6 29/6	1 0	3¼% Sept. '94	1 0 0	721,500	Griqualnd	62, Lombard-st.
Con. Deep LevelsG	5¼ 5½	5⅜ 5⅝	1 0	4/- June '94.	1 0 0	187,250	Transvaal	30, St. Swithin's-lane
Con. G. Fields S A.	9¼ 9⅜	8 15/16 9 1/16	1 0	15% Nov. '94	1 0 0	1,250,000	S. Africa	8, Old Jewry.
Do. 6 % Pref.	23/ 24/	22/6 23/6	5 0	—	1 0 0	1,243,999	S. Africa	8, Old Jewry.
Do. 5½% Deben...	109⅛ 110⅛	109 110	1 0	5¼ Jan. '95	5 0 0	600,000	S. Africa	8, Old Jewry.
Crown Reef ....G	10⅛ 10⅜	10⅝ 10⅞	1 0	25% June '95	1 0 0	120,000	Rand	120, Bishopsgt st. Wn‡
De Beers Consol. D	20⅞ 21⅛	21⅛ 21 3/16	5 0	12/6 Jan. '95	5 0 0	789,791	Transvaal.	62, Lombard-street.
Do. 5% 1st Deb....	108 109	108 109	—	5% Jan. '95	—	£3,500000	Transvaal.	62, Lombard-street.
Do. 5½% Bul. Ob.	103¼ 104⅛	103¼ 104¼	—	5½% Apr. 95	—	720,000	Transvaal.	62, Lombard-street.
Durban Roodept.G	7 7⅛	7 9/16 7 11-16	1 0	3/- Mar., '95	1 0 0	£125,000	Rand	28, Leadenhall-bldgs
Eastleigh ......G	2 3-16 2 5/16	2 3/16 2 15/16	1 0	—	1 0 0	240,000	Klerksdrp	Winchester House.
East Rand.......G	5⅞ 6⅛	5 15/16 6 1/16	1 0	—	1 0 0	570,000	Rand	170, Winchester-ho.
Evelyn .....G	1 5/16 1 7/16	1 5/16 1 7/16	1 0	10% Jan. '89	1 0 0	66,000	Rand	28, Old Jewry, E.C.
Exploration	1⅝ 1⅞ p.m.	2 2⅛pm	1 0	1/- Dec. '94	0 4 0	148,000	S. Africa	30, S. Swithin's-ln.‡
Exploring Co.	6⅝ 6¾	6¾ 7	1 0	25/- Feb. '94	1 0 0	69,350	S. Africa	19, S. Swithin's-ln.
Ferreira ....G	17 17⅛	17⅜ 18	1 0	50% Mar. '95	1 0 0	45,000	Rand	120, Bishopsgt st. Wn†
Forbes Reef (Nw)G	12/6 15/	7/- 8/-	1 0	—	1 0 0	105,000	De Kaap	45-6, Leadenhall-st.
F Johnson & Co....	20/6 21/6	19/6 20/6	1 0	—	1 0 0	200,000	Mashonld.	8, Old Jewry‡
Geldenhuis DeepG	10 10¼	10¼ 11⅛	1 0	—	1 0 0	865,000	Transvaal.	30, St. Swithin's-lane.
Geldenhuis Est. G	7¼ 7½	7 1/16 7 5/16	1 0	5% April '95	1 0 0	187,500	Rand	120, Bishopsgt st. Wn‡
Do. Main Reef	23/6 24/6	28/- 29/	1 0	5% Apr., 95	1 0 0	150,000	Rand	Warnford Court, E.C
George and May G	2¼ 2⅜	2 7/16 2 9/16	1 0	—	1 0 0	112,750	Rand	7, Great St. Helen's.
George Goch ...G	3⅛ 3⅜	3 9/16 3 11/16	1 0	—	1 0 0	100,000	Rand	Johannesburg.
Ginsberg	2¼ 2⅜	2 7/16 2 9/16	1 0	—	1 0 0	130,000	Drietfon.	Warnford Court, E.C‡
Glencairn ......G	4¼ 4½	4 5/16 4 7/16	1 0	7½ pc Jan. 95	1 0 0	200,000	Rand	2, Drapers-gardens.
Gold Coast Devel.	7/3 7/9	—	—	—	—	—	—	11, Queen Victoria-st
Gold Estates T....G	7/- 8/-	7/ 8/	1 0	15% Dec. '89	0 10 0	130,000	Transvaal.	46, Queen Victoria-st.
Gld. Fis. Deep...G	7⅛ 7⅜	7⅛ 7⅜	1 0	—	1 0 0	600,000	S. Africa	8, Old Jewry.
G. F. of Mashonld.	⅜ ⅞	⅜ ⅞	1 0	—	1 0 0	200,000	Mashonld	19, St. Swithin's ln.
G.F. Tierrad' Fuego	3/9 4/3	3/9 4/3	0 4	—	0 4 0	400,000	Mozambiq	2, Tokenhouse Bldgs
Grahamstown ..G	17/- 18/-	17/- 18/-	1 0	—	1 0 0	150,000	Rand	14, Throgmorton-st.

AFRICAN MINES—(Continued)

Name.	Closing Price, May 3, 1895	Closing Price, Apr. 26, 1895.	Am't. of Share	Latest Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
			£ s.		£ s. d.			
Graskop ......G	6/- 7/-	5/9 6/3	0 5	1½% Mar. '91	0 5 0	400,000	Lydenburg	85, Gracechurch-st.
Griqualand W....D	7⅜ 7⅝xd	7⅜ 7⅝	10 0	2% Sept. '94		105,700	Transvaal .	62, Lombard-street
Guy Fawkes......G	11/- 12/-	11/6 12/6		—	10 0 0		—	
Gwelo Exploratn.	3/6 4/6	6/- 7/-	0 10	—	0 8 0	24,000	Manica......	Broad-st. Avenue
Harmony (Pref) G	9/6 10/6	9/- 10/-	1 0	—	1 0 0	260,000	—	79½, Gracechurch-st
Henderson's Trans	4⅜ 4⅝	4 4⅛	1 0	—	1 0 0	250,000	Zoutpanbg	85, Gracechurch st.
Henry Nourse ...G	6⅜ 6⅝	6 9/16 6 11/16	1 0	—	1 0 0	100,000	De Kaap ...	Warnford-court.
Joe's Reef ....G	13/6 14/6	6/- 7/-	1 0	—	1 0 0	57,404	De Kaap ...	21, Mincing Lane.
Johannesburg G.F	8/6 9/6	5/6 6/6	1 0	—	1 0 0	99,537	Johanburg	31, Lombard st., E.C.
Johannes. Invest.	4⅜ 4⅝	—	1 0	10 p c Dec. 94	1 0 0	650,000	—	7, Lothbury.
Johannesburg Par	5⅛ 5⅜	5 5¼	1 0	2½% Nov., '93	1 0 0	2[illegible],000	Rand	Johannesburg.
Jubilee ....G	9¾ 10	9⅜ 9⅝	1 0	30% April '95	1 0 0	30,000	Rand	8, Old Jewry.†
Jumpers .....G	5⅝ 5⅞	5⅞ 6	1 0	25% Dec. '94	1 0 0	100,000	Rand	120, Bishopsgt st. Wn‡
Kaffirs........	¾ 1	—	1 0	—	1 0 0	80,000	Nrth. Kaap	3, Budge Row, EC
Kimberley .....D	⅛ ¼pm	pr ⅛pm	1 0	—	8 10 0	98,672	Kimberley	19, Finsbury circus.
Kimberley Rdpt....	4 4¼	3⅛ 3⅜	1 0	—	1 0 0	125,000	Kimberley	2, Drapers-gardens.
Klerksdorp	25/- 26/-	27/ 28/	0 10	—	9 8 0	400,000	—	110, Cannon St.
Koffyfontein.....D	1⅛ 1⅜	1⅛ 1⅜	1 0	—	0 5 0	50,000	Jacobsdaal	120, Bishopsgt st. Wn
Langlaagte Est. G	4⅞ 5	4¾ 4⅞	3 0	10 p.c. Mar.'95	1 0 0	467,000	Rand	59, Holborn Viaduct
Do. Royal	4¼ 4⅛	4½ 4⅝	1 0	5% Sept. '93	1 0 0	100,000	Rand	2, Drapers-gardens.
Lionsdale	11/6 12/6	12/6 13/6	1 0	—	1 0 0	115,000	Lydenburg	85, Gracechurch-st.
Lisbon-Berlyn .. G	7/9 8/3	8/6 9/-	2/6	—	0 2 6	88[illegible],233	Lydenburg	110, Cannon-street
London & S. A. Ex.	11¾ 12¼	11¾ 12¼	0 10	3/- Mar. '95	0 10 0	100,000	S. Africa ...	19, Finsbury-circus.
Lower Roodepoort	11/- 12/-	13/6 14/6	1 0	—	1 0 0	150,000	Vlakfontn	8, Old Jewry, E.C.
Luipaards Vlei Est	23/ 24/	26/- 27/-	1 0	6% Mar. '90	1 0 0	319,003	Rand	Warnford-court.‡
Main Reef (New)G	28/ 30/	1⅛ 1⅜	1 0	—	0 10 0	300,000	Rand	8, Old Jewry.
Mashon. Agency...	2⅜ 2⅞	2¼ 2⅞	1 0	—	1 0 0	100,000	Mashonald	8, Old Jewry, E.C.
Massi Kessi	10/- 11/-	9/6 10/6	0 10	—	1 0 0	60,000	Manica	Broad Street Avenue
May Con. (New) G	3⅛ 3⅞	3 9/16 3 11/16	1 0	10 p c Apr. 95	1 0 0	430,000	Rand	4, Lothbury.‡
Metropolitan (N) G	3⅛ 3¼	3 5/16 3 7/16	1 0	—	1 0 0	75,020	Rand	1, Crosby Square ‡
Meyer & Charl....G	7⅜ 7⅞	7¾ 8	1 0	30% Dec., '94	1 0 0	71,687	Rand	Warnford-court.‡
Modderfontein..G	16⅛ 16¾	16⅞ 17⅛	1 0	—	1 0 0	200,000	Rand	Warnford-court.‡
Montrose.......G	1⅜ 1¼	1⅝ 1¾	1 0	3/- Feb. '90	1 0 0	70,000	De Kaap ...	65, New Broad-street
Moodies G.&E....G	26/3 28/9	1⅜ ¾	1 0	-/4 May '90	1 0 0	240,000	De Kaap .	8, Old Jewry ‡
Mozambique.	28/6 29/6	28/6 29/6	1 0	—	1 0 0	400,000	S E. Africa	Broad-street House.
Namaqua C	½ ¾	11/16 13/16	2 0	2/6 July '91	2 0 0	94,351	Namaquald	34, Leadenhall-blds.
New African	4¼ 4½	—	1 0	—	1 0 0	190,000	—	83, Hatton Garden.
New Ariston	—	—	1 0	—	1 0 0	30,000	Klerksdorp	Winchester House.
New Aurora WestG	—	—	1 0	5% Mar., '93	1 0 0	30,000	Rand	1, Crosby Square
N. Belgium Land...	7/ 8/	⅛ ⅜	1 0	—	0 17 0	167,462	Waterberg.	33, Cornhill.
New Chimes.....G	3 15/16 4 1/16	3¾ 3⅞	1 0	2/- Feb., '95	1 0 0	100,000	Rand	8, Old Jewry, E.C
New Clewer Estate	1⅜ 2	1¾ 1⅞	1 0	10% Feb. '95	1 0 0	100,000	Lydenburg	120, Bishopsgt st. Wn
New Crœsus.....G	2¼ 2⅞	2 13/16 2 15/16	1 0	5 % Aug. '92	1 0 0	255,000	Langlaagte	120, Bishopsgt. st. Wn
New Gordon.....D	8/6 9/6	9/ 10/	1 0	5% Dec. '89	1 0 0	404,344	Griqualand	110, Cannon-street.
New Heriot .....G	11⅛ 11⅜	9⅛ 9¾	1 0	25 p c Mar. 95	1 0 0	88,750	Rand	96, Gresham Ho. EC
New Jagersf. ...D	9¾ 10	10⅜ 10⅝	5 0	12½ Mar., '95	5 0 0	100,000	Transvaal .	5, Copthall-buildings
N. Kleinfontein G	6⅜ 6⅝	6 11/16 6 13/16	1 0	12½pc Mar.'95	1 0 0	82,500	Rand	Winchester House.
New LouisD'Or..G	2/9 3/3	2/6 3/6	1 0	—	1 0 0	—	Rand	53, New Broad-street
New Primrose ...G	7⅛ 7⅜	7 1/16 6 5/16	1 0	4/- April '95	1 0 0	278,750	Rand	2, Draper's-gardens.
New Rand.......	par ⅛ pm	1/16 dis 1/16 pm	1 0	—	1 0 0	110,003	Rand	Bartholomew-house
New RietfonteinG	4⅞ 5	4 15/16 5 1/16	1 0	—	1 0 0	160,000	Rand	Warnford-ct., E.C.
New S. AugustineD	10/6 11/-	12/- 1 3/	1 0	—	0 19 6	299,137	Griqu'ld W	30-1, St. Swithin's-ln
New Spes Bona...G	3⅞ 4⅛	4 4⅛	1 0	—	1 0 0	113,701	Rand	24, N. John-st., L'pl
New Steyn Estate	2¼ 2⅜	2 1/16 2 3/16	1 0	—	1 0 0	125,000	Heidelberg	19, Bury Street. E.C
New Virginia ...G	2/6 3/6	2/3 2/9	0 10	—	0 10 0	48,335	Transvaal	26, Budge-row, E.C
Nigel ....G	8⅛ 8⅜	7 3/16 7 5/16	1 0	10% Mar. '95	1 0 0	160,000	Rand	96, Gresham Ho., EC
Nigel Deep .....G	2¾ 3	2⅞ 3	1 0	—	1 0 0	195,000	Heidelberg	8, Old Jewry.
Nigel Extension ...	12/ 13/	13/ 13/6	10/-	—	0 10 0	160,000	Rand	Basing House, E.C.
North Sheba	12/ 14/	10/- 11/-	—	—	—			88, London Wall.
Nourse Deep......	6¼ 6½	6⅜ 6⅝	1 0	—	1 0 0	375,000	Rand	120, Bishopgt.-st.. Wn.
Nyassa (Bearer) ...	⅞ 1⅛	¾ 1	1 0	—	1 0 0	248,585	Mozamb'qu	Bartholomew House
Oceana	3 3⅛	3 3/16 3 5/16	1 0	25/- Nov. '89	1 0 0	326,000	Transvaal .	4, Sun Court, E.C
Oceana Develpmnt	1⅝ 1¾	1 9/16 1 11/16	1 0	—	1 0 0	50,000	Transvaal .	4, Sun Court, E.C.
Ophir Concess. ...	5/6 6/6	2/9 3/3	1 0	—	0 18 6	111,857	E. C. Africa	31, Lombard-street.
Orange F.S.E. ...D	4⅞ 5⅛	4¾ 5¼	1 0	12½% May 95	1 0 0	284,000	OrangeF.S.	10, Moorgate-street.
Orion........G	3 9/16 3 11/16	3⅞ 4	1 0	10% Mar. '95	1 0 0	30,000	Rand	8, Old Jewry.
Otto's Kopje.....D	4/9 5/3	4/3 4/9	1 0	—	1 0 0	437,888	Kimberley	110, Cannon-st., E.C.
Paarl Central ...G	31/6 32/6	31/6 32/6	1 0	—	1 0 0	138,750	Transvaal .	120, Bishopsgt st, Wn.
Pardy's Mozambq.	2 7/16 2 9/16	2 7/16 2 9/16	0 10	1/- Jan. 95	0 10 0	13,000	S.E. Africa	Broad St. Avenue.
Pardy's Range	10/6 11/	—	0 10	—	0 10 0	—	Manica	Broad St. Avenue.
Piggs Peak ....G	22/6 25/	1 3/16 1 5/16	1 0	—	0 17 6	200,000	Swazielnd	6, Queen-street-place
Piggs Peak ....G	—	—	1 0	—	0 17 6	60,652	Swazielnd .	6, Queen-street-place
Pleiades........	2 1/16 2 3/16	—	1 0	—	1 0 0	140,000	Black Reef	
Potchefstroom...G	38/ 40/	2 2⅛	1 0	—	1 0 0	389,750	Potchefstm	19, Bury-st., E.C.
President Land ...	7/- 8/-	5/3 5/9	1 0	—	1 0 0	193,325	Transvaal .	17, Basinghall Street
Princess Estate G	3⅝ 3¾	3 11/16 3 13/16	1 0	—	1 0 0	125,000	Rand	33, Cornhill, E.C.
Randfontein .....G	44/6 45/6	46/- 47/-	1 0	—	1 0 0	2,000,000	Rand	59, Holborn Viaduct.†
Rand Mines .....G	33¾ 34¼	33¼ 33¾	1 0	—	1 0 0	332,708	Rand	120, Bishopsgt st. Wn‡
Rand-Rhodesia ...	2⅜ 2⅝	2 11/16 2 13/16	1 0	—	1 0 0	25,000	R&Rhodesa	Warnford court, E.C.
Read's Drift ....D	2¼ 2½	2⅜ 2⅝	1 0	—	1 0 0	37,000	Transvaal	19, Finsbury-circus.
Rhodesia Expln ...	8 8⅛	8⅛ 9⅛	1 0	—	1 0 0	50,000	Mt & Mash'l	8, Old Jewry.
Robinson ....G	8⅞ 9⅛	8⅞ 9⅛	5 0	5/- Jan. '95	5 0 0	550,000	M. Rf.'rand	28, Austin Friars, E.C
Roodepoort Deep	4 4¼	4⅛ 4⅜	1 0	—	1 0 0	170,000	Rand	8, Old Jewry, E.C.
Roodepoort (Kim.)	4¼ 4½	2 3/16 2 5/16	1 0	—	1 0 0	100,000	Rand	7, Lothbury, E.C.
Roodepoort Un. G	5⅝ 5⅞	6 6⅛	1 0	10p.c. Dec. '94	1 0 0	130,000	Rand	Warnford-court.‡
Rose Deep	6¼ 6½	6¼ 6½	1 0	—	1 0 0	300,000	M. Rf.'rand	30-31, S. Switn's. lane.
Rosenblock Tw'Rfs	15/16 1 1/16	⅞ 1	1 0	—	1 0 0	60,000	Krugersdp	4, Tokenhouse bldgs.
Salisbury Gold ...	5⅜ 5⅞	4⅝ ¾	1 0	—	1 0 0	98,000	Rand	96, Gresham Ho., EC
Sheba .....G	2 5/16 2 7/16	2⅜ 2⅛	1 0	1/- Sept. '94	1 0 0	850,000	Lydenburg	18, S. Helen's place.
Silati .....G	9/- 11/-	9/- 10/-	1 0	—	0 18 6	119,000	Zoutpan'bg	4, Sun Court, E.C.
Simmer & Jack...G	14⅛ 14¾xd	14¾ 15	1 0	10% Feb. '95	1 0 0	250,000	Rand	8, Old Jewry.
S. A. Gold Trust ...	6¼ 6⅝	6 6⅛	1 0	6/6 Jan. '95	1 0 0	250,000	S. Africa	8, Old Jewry.
Southern Geldnus.	9/ 10/	6/6 7/6	1 0	—	1 0 0	120,000	Elandsfont	6, Great St. Helen's
Southern Land.....	14/6 15/6	7/6 8/6	1 0	—	0 15 0	20,000	Griqld.W	19, St. Swithin's-ln.
Southern Land.....	14/ 15/	14/- 15/-	1 0	—	1 0 0	20,000	&B.Bech	19, St. Swithin's-ln.
South West Rand	2⅛ 2¾	2¾ 3	1 0	—	1 0 0	158,000	Rand	Winchester House.
Spitzkop (New) G	33/ 34/	1 7/16 1 9/16	1 0	—	1 0 0	99,070	Lydenburg	15, Bishopsgt-st, Wn.
Stanhope .....G	1⅞ 2⅛	2 2⅛	1 0	20% Jan. '95	1 0 0	34,000	Rand	98, Gresham Ho., EC
Sutherland R. ...G	17/6 18/6	18/6 19/6	1 0	—	1 0 0	220,000	Zoutpan'bg	Dashwood Ho.
Teutonia.......G	⅞ 1	15/16 1 1/16	1 0	—	1 0 0	100,000	Rand	8, Old Jewry.
Thistle Reef .....G	4/6 5/-	-/9 1/3	0 5	—	0 5 0	547,978	Barberton	Copthall House
Trans. Coal Trust...	1 9/16 1 11/16	1⅝ 1¾	1 0	1/- Mar. '95	1 0 0	439,965	Rand	Broad-st. House, E.C
Trans. Est. & Dev.	1⅛ 1¼	1⅛ 1⅜	1 0	—	1 0 0	285,700	Transvaal .	76, Old Broad-st. E.C.
Trans. Gen. Assoc.	2⅝ 2⅞	2¾ 3	1 0	10% Mar. 95	1 0 0	210,000		30, S. Swithin's lane.
Trans. Gold Exp. G	5 3/16 5 5/16	5 5/16 5 7/16	1 0	1/- Mar. '95	1 0 0	260,000	Transvaal .	Suffolk House, E.C
Trans. Gold Fields	3 11/16 3 13/16	—	1 0	—	1 0 0	135,000	S. A. R.	120, Bishopsgt.-st. Wn
Trans. Land......	15/- 17/-	9/- 10/	1 0	—	1 0 0	79,915	Transvaal .	33, Cornhill.
Trans. Land......	8/ 9/-	6/- 7/-	1 0	—	0 15 0	169,999	Transvaal .	33, Cornhill.
Treasury.......G	4 4⅛	4⅛ 4⅜	1 0	12½% Sep.'94	1 0 0	60,000	Rand	Warnford Court.
Turffontein Est. ...	—	—	1 0	2½ Nov. 94	1 0 0	40,007	So. Africa...	130, Winchester Ho.
U. G. F. of Manica	9/ 10/	7/ 8/-	1 0	—	1 0 0	100,492	Manica ...	Broad Street House.
Un. Ivy Reef.....G	1⅛ 1⅜	1¼ 1⅜	1 0	2½ Jan. '94	1 0 0	45,070	Transvaal .	110, Cannon-street
U. Langlaagte(N)G	3½ 3¾	3 7/16 3 9/16	1 0	—	1 0 0	146,000	Rand	113, Bishopsgt-st Wn‡
United Matabele...	1⅛ 1⅝	1¼ 1½	1 0	—	1 0 0	75,000	Africa	19, S. Swithin's lane.
United Pioneer.....	1 7/16 1 9/16	1⅜ 1⅝	1 0	—	1 0 0	75,000	De Kaap ..	16, S. Helen's-pl, E.C.
Van Ryn .....G	9⅜ 9⅝	7¾ 7⅞	1 0	—	1 0 0	160,000	Rand	18, St. Swithin's-ln.
Village Main Reef	7⅛ 7⅜	7⅜ 7⅝	1 0	—	1 0 0	177,001	Rand	8, Old Jewry.
Wassau ......G	—	—	1 0	—	1 0 0	100,000	Gold Coast	147, Cannon-street.
Wemmer ......G	12⅞ 13⅛	10¼ 10⅛	1 0	10% Nov. '91	1 0 0	55,000	Rand	19, Bury-street.‡†
West Rand......G	3½ 3⅝	—	1 0	—	1 0 0	24[illegible],000	Rand	8, Old Jewry.
Willoughby's Con.	1⅝ 1¾	1 9/16 1 11/16	1 0	—	1 0 0	700,000	Mashonald	3, Copthall-bldgs.
Witwatersrand G	7⅛ 8	7 13/16 7 15/16	1 0	—	1 0 0	250,000	Rand	19, Bury-st., E.C.
Wolhuter ......G	8 8¼	8 1/16 8 3/16	1 0	10 p c Apr., '94	1 0 0	130,000	Rand	Warnford-court.†
Wolverand.......G	⅞ 1	½ ¾	1 0	2/- Apr., '94	1 0 0	18,750	Transvaal .	Blomfield House.
Wolverand.......G	—	—	1 0	—	0 18 0	39,021	Transvaal .	Blomfield House.
Worcester ......G	4⅛ 4⅞	4¼ 4½	1 0	15% Apr. '95	1 0 0	90,727	Rand	8, Old Jewry.‡
Zambesia Explora.	3⅛ 3⅜	4 4¼	1 0	—	1 0 0	65,000	Transvaal .	13, George-st., E.C.

REPORTS FROM THE MINES.

BRITISH MINES.

CARN BREA.—Carn Brea, R.S.O., April 26.—Highbarrow east. The 334 fathom level is driven east of crosscut south of Harvey's shaft 9 fathoms; the lode in end is of a very promising character, large and well defined, and producing a little tin. The 334 fathom level is driven west of crosscut 8 fathoms, lode producing stones of tin. We look forward to an improvement in both these ends. Since the general meeting we found it necessary to connect the main skip road with this level so as to have a better system for discharging our stuff. Whilst we were doing this work we were obliged to suspend the driving of the 334 east and west of crosscut. In order to accomplish the work in the shaft as quickly as possible, we set the men a contract for the whole job—viz., to fix the penthouse above the 322; sollar over the shaft below the 322; cut down the skip bottom, and cut and build hopper at the 322; fix skip road, and divide and case the shaft from the 322 to the 334, and cut top plot at the 334 fathom level; if completed in three weeks from April 1, each man to receive a premium as an encouragement for his extra work. We are pleased to state that the men completed their contract in the time stated, and so won their premium. This week we have cleared the stuff from the levels and fixed tram road therein, and have resumed the driving of the ends, which we hope now to carry on with increased speed. The 322 end is driven east of Harvey's shaft about 26 fathoms. The lode and ground in this end are changing in character, and we are looking forward to an early improvement as we near the run of tin ground. The lode in the 310 end east of Harvey's shaft is worth £12 per fathom; in the rise in back of this level £14 per fathom.—Highburrow west. The lode in the 286 end west of long winze is worth £15 per fathom; in the 238 end west of rise £15 per fathom.—Old sump. The lode in the 256 end east of crosscut on Druid's north lode is producing low quality work for tin. Our stopes throughout the mine are producing their usual quantity of tin.—(Signed) W. T. White, John Daddow, Wm. Thomas, John Penhall.

DEVON GREAT CONSOLS.—Wm. Clemo, May 2: Watson's. There is no alteration in the 172 fathom level or the 148 fathom level east. Since the date of the monthly report the stopes here and throughout the mines are yielding good quantities of copper and mundic ores for the reduction works.

LEADHILLS.—W. H. Paull, April 30: Brown's vein. The 160 fathom level is now extended 46 fathoms 0 foot 6 inches north of Jeffrey's shaft. vein in forebreast 4 feet wide, composed chiefly of stone, and a rib of spar 3 inches wide, spotted with lead ore. This point is set to five men at 87s. 6d. per fathom. The vein is stope over this level south of Jeffrey's shaft is worth 25 cwts. of lead ore per fathom, suspended for a time, and men placed in other bargains, from which the men have left. The winze sinking below the 145 fathom level south of Wilson's shaft is now down 6 fathoms 2 feet, and reset to seven men at 85s. per fathom, vein therein 6 feet wide, worth at present 80 cwts. of lead ore per fathom, and the ore ground appears to be dipping southwards. No. 3 stope above the 145 fathom level north of Jeffrey's shaft is set to four men at 32s. 6d. per fathom, and producing 25 cwts. of ore per fathom. No. 4 stope over the same level north of the said shaft set to four men at 32s. 6d. per fathom, will yield 25 cwts. of ore per ton. The 115 fathom level now extended 142 fathoms 3 feet 6 inches north of Jeffrey's, is set to three men at 85s. per fathom. Vein here 4½ feet wide, composed chiefly of stone and spar, and unproductive for mineral. The same level south of old stope above the 130, set to four men at 90s. per fathom, is on vein 4 feet wide, without ore at present. There remains but a short distance between these last two points, and when a communication is effected stoping can be started in the ore ground opened out by driving the 115 south of said old stope. The 100 fathom level is extended 210 fathoms 4 feet 6 inches south of Wilson's shaft, set to four men at 67s. 6d. per fathom; vein 4½ feet wide, composed of stone and spar, with water oozing from the end. The crosscut eastwards at the 100 fathom level south of Wilson's shaft is advanced 54 fathoms 2 feet 9 inches, the point where Raik Vein should have been intersected according to bearing and underlie of same as worked upon some distance further north. It is evident the vein has either taken a more south-easterly bearing or underlies faster. We are, however, meeting with strings of spar, and may intersect the vein any day. The ground here is congenial for the production of mineral, and the end has been reset to seven men at 130s. per fathom. A winze is set to four men at 75s. per fathom, on eastern part of vein, below drift over the 100 fathom level south of Wilson's shaft which will produce 30 cwts. of ore per fathom. A stope is set to two men at 40s. per fathom on same part of vein above the 85 fathom level south of Wilson's shaft, where it is also worth 30 cwts. of ore per fathom. The 85 fathom level now extended 166 fathoms 2 feet 3 inches south of Wilson's shaft is set to four men

at 65s. per fathom. Vein here 4 feet wide, rather soft and dark in character, but contains a mixture of spar, and is letting a little water. A stope over this level south of Wilson's shaft, set to four men at 35s. per fathom, is valued at 50 cwts. of ore per fathom. A stope over the 70 fathom level south of Wilson's shaft, set to four men at 35s, per fathom, will yield 70 cwts. of ore per fathom. A stope over the 50 fathom level south of flatrod shaft, set to four men at 32s. 6d, per fathom, is worth 30 cwts. of ore per fathom. A stope below the 35 fathom level south of same shaft, set to four men at 32s. 6d. per fathom, will produce 45 cwts. of ore per fathom. The stope above the 35 south of this shaft is worked out, and men are now engaged clearing out ore stuff from same.—Sarrowcole vein. Gripp's adit is now driven south of George's Roust vein 97 fathoms 4 feet; reset to drive south by three men at 72s. 6d. per fathom. Vein 3½ feet wide, composed of a kindly stone and spar, with a strong feeder of water issuing from the end.

PRINCE OF WALES (East Cornwall Tin Mining Syndicate).—S. Roberts, James Pyne, May 1; There is no change in the crosscut north of the 180 fathom level since our last, except the intersection of another small part of the slide.—Wheal George lode. We have cleared up the eastern shaft to the shallow level, and find 2½ feet of water in it. The stulls in the back are crushed and broken down and obstruct all communication.

TINCROFT.—April 26: There is no change in the 342 fathom level crosscut, south of Martin's east shaft, since the meeting. In the 330 fathom level, west of crosscut, west of Martin's east shaft, we have met with several small branches of tin. In the 320 fathom level driving west of crosscut, east of Martin's east shaft, the lode is worth for tin £9 per fathom. In the 300 fathom level west of crosscut, west of Martin's east shaft, we have discovered a good section of stoping ground. In Downright shaft sinking below the 320 fathom level the lode is worth for tin £12 per fathom. In the rise in the back of the 320 fathom level, on Dunkin's lode, the lode is worth for tin £12 per fathom. We consider this a valuable addition to our mine. In Harvey's engine shaft sinking below the 320 fathom level the lode is producing saving work for tin. In the 212 fathom level crosscut, north of Downright shaft, there is no change worthy of notice.—North Tincroft. We are making the necessary arrangements, fixing air-winch, &c., preparatory to driving the 174 fathom level west of winze, east of Willoughby's shaft, which we hope to complete during the coming month. In the winze sinking below the 154 fathom level, west of Willoughby's shaft, the lode is not so productive as last reported. We still continue to meet branches in the 154 fathom level crosscut north-east of Tyries engine shaft. In the 154 fathom level east of crosscut west of old Tincroft shaft on the north lode. The lode is worth for tin £12 per fathom. In the 120 fathom level, east of Willoughby's shaft, the lode is worth for tin and arsenic £11 per fathom. In the rise in the back of the 154 fathom level west of old Tincroft shaft the lode is worth for tin £11 per fathom. In the 100 fathom level east of Willoughby's shaft we have cut into the north part, and discovered a large lode, which with a ordinary price for tin would pay us well to take away.—(Signed) Wm. Teague, John Hammill, Geo. Nancarrow.

COLONIAL, INDIAN, AND FOREIGN MINES.

ANGLO MEXICAN.—The manager, writing from the mine on March 25, says:—New main tunnel. Work on this tunnel was advanced 14 feet during the past week, making a total length to date of 1423 feet. You will note that progress here continues satisfactory, but does not call for special comment.—Drift south from air winze. This drift was advanced 11 feet during the week under review, giving it a total length to date of 96 feet. The face of this drift shows a vein 5 feet in width and carrying fair ore, the grade having improved somewhat.—Upraise No. 14 from drift south from air winze.—This upraise was advanced 5 feet during the week under report having attained a total height to date of 15 feet above the drift from air winze. The vein in the face of this upraise continues of a very good width, averaging about 6 feet, and carrying about the usual grade of ore.—Upraise No. 11 No. 1 level. Work in this upraise was advanced 11 feet during the past week, making a total height to date of 109 feet above the No. 1 level. The appearance of this upraise continues about the same as heretofore, but the ore has dropped off somewhat in grade.—Drift south No. 1 level. The vein in the face of this drift looks very well indeed, and I think will continue to improve. The ore in this drift now assays about $130 per ton in gold, and the vein is of fair width. The March output amounted to $230,000, Mexican.

D'ARCY ESTATES.—Report dated March 23; Main shaft sunk during the week 8 feet, total depth 331 feet. Rock continues a very hard short diorite. Portion 54, drive from main shaft in 57 feet; progress during the week 10 feet; quartz vein continues to show slight prospects in gold. Prospecting shaft No. 3 sunk during the week 15 feet, total depth 32 feet; some quartz found in the bottom. Portion 44, prospecting shafts continued, and at a depth, of 26 feet some ironstone prospecting in fine dold discovered.

GREY HORSE.—A writer in the Ballarat *Courier* says that at the Grey Horse Mine all is life and bustle. The different works in connection with the erection of the company's extensive crushing plant are being matured satisfactorily, and the opening of the mine below will be in a very forward state by the time the stampers are ready for action. This plant is of the latest design. Forty heads of 9 cwts. each are to work in eight boxes, which have plane surfaces and duplicate "liners," and the openings for the gratings are made to allow of the latter leaning out at an angle of about 11°. This lean has been found very effective in promoting the discharge, and it is said that fully 40 per cent. more quartz can be put through per hour than with the ordinary vertical grates. At the rear of the battery building a steam boiler by Babcock and Wilson (London and Glasgow) is being placed in position. The engine which is directing the power to the stampers is on the compound principle, and was made by Robey and Co. The battery will be ready for work in three months. In the meantime Mr. Hopkins Jenkins is pushing on with the works below, which are situated 6 or 7 chains to the north of the crushing plant. All the works are in a very forward state. The ground is opened ready for stoping down to the 325 feet level. The quartz has formed a band of slate having a width of about 60 feet. It occurs in "makes," which have an echelon relationship in vertical extension, and as the shift is deepened, "make" after "make" is cut into, all having the same characteristics as regards nature of quartz, pyritic blende, and gold. There will be about 1400 tons paddocked ready for stampers by the time the latter are ready for action, and what with this and the stoping to follow, the battery will have its work cut out for some time. The shaft is down 475 feet. At the 400 feet a big mass of stone has been met with in the chamber, in which the gold is to be seen as in the higher levels. A main shaft is to be sunk nearer the battery, and arrangements are in progress for a powerful winding and pumping engine on the same scale as that to be used at the battery. The present shaft is to be deepened to 700 feet, and then to be used as an air shaft. Further exploring works are to be conducted to the east and west from its bottom level, however, first in search of the downward extensions of the numerous lodes within the area.

HARQUAHALA.—Mr. Robert M. Raymond reports for March:—Mining Department. Bonanza group, ore breaking. Iron vein, above 1st level. 850 tons of ore have been mined from here, part from the stope near the iron shaft and the greater part from the east side of the old workings near the surface. The ore has run from $12 to $15, though the gold is not as free as usual.—Iron vein, below 6th level. This has produced 75 tons of $7 ore, which finishes the lowest part of the Iron vein. The orebody ceases about 10 feet below the 6th level.—Porphyry stope. About 50 tons have been mined on the eastern side of this stope, averaging about $6.—West contact, No. 1 stope west. 150 tons of $10 to $12 ore were mined here, which finished this bunch of ore.—Discovery vein, big stope. This is being filled with waste from development work, and the pillars are thus becoming accessible. One of these broken down has yielded 400 tons during the month, the value varying from $5 to $12. Considerably more will be obtained from this stope later on.—Prospecting. Contact east, crosscut from 4th level. This has been advanced along the contact 187 feet, a total length of 247 feet. At 160 feet indications of ore were struck, and also in the heading. The best of it assayed from $1 to $2. A raise will be made on the first, and the drift continued.—Contact, south-east. No. 3 crosscut, 5th level. This has been advanced 125 feet, a total of 360 feet, the last 70 feet of which are in the Gold Star claim. At the 1st of the month the porphyry dipped downward, and the heading was in quartzite, showing traces of gold. On driving some distance the porphyry again showed in the heading, and later rose above the drift. At 250 feet a raise 10 feet high, and at 325 feet another 27 feet high, were run up. The contact and the quartzite above appear less favourable as we advance from the old orebodies, and there are no indications to warrant going further. The porphyry lays flatter than was anticipated, but this gives further hope of getting through it. No. 5 crosscut, 5th level. This has been advanced south east 47 feet, a total of 135 feet. At 65 feet a diamond drill hole was run downward and encountered a narrow streak, assaying $2. At the heading, another hole was run upwards and forwards into the lime and quartzite, but encountered no trace of mineral.—Contact, west, drift from foot of porphyry stope. This has been advanced 96 feet, a total of 220 feet. At 110 feet a raise 18 feet high has been made at a point where a little gold showed, and short drifts from the top of this vein to the north and south. Favourable-looking rock was encountered, but no pay ore has yet been found.—West contact, No. 1 stope. Further prospecting is being done here in the hope of finding another orebody above this one.—Golden Eagle group, ore breaking, No. 2 winze south. 750 tons have been extracted from the stopes on each side of the winze. They are now carried up nearly to the level, where the ore streak is very narrow. The ore has varied from $6 to $10 in value. North drift. The ore body developed from this has produced 120 tons, averaging $10. It has been opened for a length of 75 feet, the ore being rather bunchy.—Prospecting. North drift. This has been advanced 20 feet farther, a total of 130 feet from the crosscut.—No. 1 winze south. This has been sunk to a depth of 200 feet. A sump is being cut for water, which begins to show in small quantities, and drifts will then be run both ways along the contact.—Milling department. The mill has run very steadily during the month, the full time made being 29½ days. The ore milled and the returns are as follows: Ore on hand, March 1,257 tons; ore mined, Bonanza, 1745 tons; ore mined, Golden Eagle, 869 tons total, 2871 tons; ore milled 2605 tons; ore in hand April 1, 266 tons. Bullion produced 1125 ounces, valued at $17,700; profits, general store, $750; total revenue, $18,450.—Expenses, revenue account. Ore breaking $7092, milling $4075, prospecting $6185, taxes, insurances, &c., $933, $18,285; profit, $165.—Expenses, capital account. Cyanide works $675, diamond drill, $900.—Cyanide works. The grading is nearly completed for the ore vats, and the work of erection will begin very soon.—Diamond drill. This has been added to our plant for exploratory work, and at present we are boring down into the porphyry from the 7th level. A depth of 100 feet has been reached without much change. At 75 feet a narrow band of slate and quartzite was crossed, but porphyry was entered again in a few feet. We shall investigate the depth of the porphyry as well as possible.—Note by London Office. Mr. Raymond cables that he has been compelled to shut down the mill for a few weeks, while preparing to extract some supplies of ore available in the upper workings of the mine. Milling will probably be resumed in about a month from this date, but the board wish to point out that, in order to secure continuous working thereafter it will be necessary that the development work, now being actively prosecuted, should prove more successful than has hitherto been the case.

MACATE.—Extract from manager's letter, dated La Soledad, March 22: San Enrique. Passing through the mine yesterday I was very pleased with the appearance of the stopes from where we are about to take our metal. The general appearance of the mine, I may say, is highly satisfactory. We traced the lode east for a distance of about 600 yards along the outcrop on the mountain side, and I am sure there is not a shadow of a doubt that we have here ore for 10 stamps for 50 years.

MOUNT ZEEHAN (Tas.).—Manager reports for week ended March 19: Argent section, main engine shaft, No. 6 lode, No. 2 level south. Stope continued, but ore kept below, owing to mill being engaged on customs ore. Lode 2 to 4 feet wide.—Silver Queen section, No. 8 lode. Shaft has been sunk 5 feet, total from surface 68 feet. Lode formation 5 feet wide.—No. 1 level. Drive north extended by tributers 1 foot, total 99 feet 6 inches. The branch of first-class ore reported last week maintains its size and value. Concentrator has been run on tributers ore, crushing 45 tons, and Zeehan-Montana Company's ore crushing 130 tons seconds.—Tributers. Several parties are prospecting for the rich lode found on tribute east, Queen Extended section.

NEW QUEEN.—The following fortnightly report has been received from the mine dated Charters Towers, March 15: No. 2 south level. Stoping has been carried on over this level, the reef varying from 2 inches to 5 inches; the ground in this stope still continues very hard.—No. 4 south level. Stoping has been continued over the footwall stope over this level; the reef varies from 3 inches to 1 foot. This stope is not quite so good as in my last report, the reef being more irregular, but of good quality.—No. 5a south level. Stoping is being carried on over this level, the reef being irregular—from 3 inches to 9 inches.—No. 6 south level. We are still sinking in the footwall of this level; the ground is fairly good for working. I do not think we have reached the footwall of the No. 5a level.—No. 1 underlie. The north level has been extended a further distance of 20 feet, making 104 feet from underlie, with very little change during the fortnight. No. 2 north level has been extended a further distance of 15 feet, making total of 222 feet from underlie shaft. The formation in the end of the level is opening out much wider, being now over 8 feet in width, with about 6 inches of stone on the footwall. Stoping has also been carried on over this level, the reef being irregular, varying from 3 to 15 inches. Underlie shaft has been cleaned and sinking resumed last Thursday.—Quantity of quartz raised during the fortnight, No. 2 south level 48 trucks, No. 4 ditto 164 trucks, No. 5 ditto 36 trucks, No. 4 formation 147 trucks; total 395 trucks.—(Signed) W. Henderson.

ROBINSON DEEP.—Extract from the consulting engineer's report for March: No. 1 shaft sunk 84 feet, total depth 690 feet. No. 1 shaft timbered 95 feet, total depth 667 feet. No. 2 shaft sunk 78 feet, total depth 738 feet. No. 2 shaft timbered 97 feet, total depth 713 feet. The new headgear has been erected at No. 1 shaft, and is ready for use with the exception of the back legs, which cannot be put up until the old engine is removed. The boilers at both shafts are completed; those at No. 2 are under steam. The new skips have arrived, and will be put into No. 2 shaft to morrow, when the new engine will also be started. The trees round the Heron Mere dam require clearing very badly; this is the work of the contractors, the Braamfontein Nursery Company, and their attention should be called to this at once.

SHEBA QUEEN GOLD AND EXPLORATION.—The following is Mr. W. L. Bowler's report on the Sheba Queen property:—The extent of the property is 44 mining claims, each 150 feet by 400 feet, and runs in an east to west direction all along the spur of the mountain range, and is directly situated in a line of reefs that emanate from the Sheba. It is situate at the Komati gold fields, about 15 miles south of the town of Barberton, and 7 miles from the town of Steynsdorp, and is divided from the De Kaap gold fields by the Komati river, which flows at the eastern extremity of your property. During my various visits I have had many opportunities of forming my calculations, and I was especially pleased with the quartzite bar which extends through nearly the whole of your property. There I traced two lodes, which, in my opinion, are true fissure lodes, composed of pyritous quartz, and from examination I am convinced that they are continuous reefs. What may be termed the main reef was fully 10 feet to 12 feet wide, and from pannings made continuously by W. H. Furlonge and others, I ascertained that the average gave 2 ounces of gold to the ton. One crushing of 18 tons yielded 39 ounces 4 dwts. 6 grains, which test should be sufficient to indicate the property is a very valuable one, especially as the ores crushed were fair samples taken from the two reefs. The water-race is about 5700 feet, with a 30 feet fall, giving enough water-power to drive 1000 stamps. The battery is close to the Komati river. Timber is close at hand in abundance. The Sheba Queen property has the best working facilities of any property I have ever seen, and the inexhaustible supply of ore can be worked at a very little cost. A 40 stamp battery, crushing about 1400 tons per month of quartz, calculated on the very moderate yield of 1½ ounce gold to ton (the average assay given is much higher), would produce the company a net profit of about £50,000 per annum, which amount can be increased by erecting additional stamps. In conclusion, I beg to say that I am most favourably impressed with the property, and, notwithstanding the present large output of the Sheba, I am convinced that if this property is well managed and fitted with the same amount of machinery as the Sheba, it would compare very favourably with that mine; indeed, I believe this property exceeds in richness any other in the De Kaap or Komati district. Consequently, I consider it will prove creditable to all interested in it, and an exceedingly good investment for the shareholders. I may add that I have spent several years in this part of South Africa as consulting engineer, and, therefore, claim to be thoroughly acquainted with the formation of the country.

WENTWORTH EXTENSION.—Report dated March 23: Carrol shaft No. 1 timbered up the bottom 51 feet, and crosscut started. East crosscut advanced 4 feet. West crosscut advanced 3 feet in soft diorite. The west crosscut will cut the big quartz blow in about 40 feet.

ZAPOPAN.—Mr. Hillson, the company's mine manager, cables:—"I have visited the property with Johns, who confirms Woodyatt regarding the immense bodies of ore in sight in these workings. The plant suggested by Woodyatt must be erected immediately, his estimate considered ample for all demands; endeavouring to purchase battery, 20 head stamps, locally, so as to economise. The mine has been officially favourably reported on recently." The Mr. Johns referred to by Mr. Hillson is the well-known mining expert of South Australia. The official report referred to is by the Government mining engineer, who periodically visits the gold fields, and whose reports are issued in the annual Blue Book.

DE LAMAR.—From Capt. J. W. Plummer's monthly report for March:—Mining: Ore breaking department. Hamilton vein, above the 3rd level. Average width of vein 4 feet 3 inches, assaying $24·50 in gold and $2·52 in silver, equals $27·02 per ton.—77 feet vein, above 4th level, west (No. 3 ore shoot). Average width of vein 3 feet 6 inches, assaying $25 in gold, equals $25 per ton.—77 feet vein, above the 5th level. Average width of vein 2 feet, assaying $18·52 in gold and £2·75 in silver, equals $21·27 per ton.—77 feet vein, above the 7th level. Average width of 5 feet 9 inches, assaying $13 in gold and $7·50 in silver, equals $20·50 per ton.—77 feet vein, above the 8th level, west intermediate stope. Average width of vein 7 feet 10 inches, assaying $15·56 in gold and $4 in silver, equals $19·56 per ton.—77 feet vein, above the 8th level, west stope. Average width of vein 4 feet 6 inches, assaying $22·10 in gold and $2·60 in silver, $24·70 per ton.—77 feet vein above the 9th level. Average width of vein 5 feet 6 inches, assaying $24·81 in gold and $8·80 in silver equals $33.61 per ton.—No. 5 vein above the 6th level. Average width of vein 3 feet 8 inches, assaying $26·61 in gold and $1·45 in silver equals $28·06 per ton.—No. 6 vein above the 8th level. Average width of vein 2 feet 9 inches, assaying $23·88 in gold and $3·50 in silver, equals $27·38 per ton.—No. 7 vein above the 7th level. Average width of vein 4 feet 7 inches, assaying $25 in gold and a trace in silver, equals £21 per ton.—No. 7 vein above the 8th level. Average width of vein 2 feet 7 inches, assaying $21 in gold and a trace in silver, equals $21 per ton.—No. 9 vein above 7th level. Average width of vein 4 feet, assaying $26·60 in gold and $6·21 in silver, equals $32·81 per ton.—No. 9 vein above 8th level. Average width of vein 3 feet 2 inches, assaying $26·47 in gold and $1·97 in silver, equals $28·44 per ton.—No. 9 vein, above 9th level. Average width of vein 3 feet, assaying $22·52 in gold and $11·64 in silver, equals $43·16 per ton.—Prospecting department: Wilson vein, 5th level, east. Reported length 16 feet, advanced for the month 24 feet, total length 40 feet. Average width of vein 1 feet 5 inches, assaying $22·25 gold and silver a trace, equals $22·25 per ton.—Winze from intermediate drift, above 4th level. Total depth 46 feet, assaying $24 in gold and silver a trace, equals $24 per ton. This winze is now communicated to the 4th level. The vein is very flat.—77 feet vein, 4th level west. Reported length 109 feet, advanced for month 33 feet, total length 142 feet. Average width of vein 3 feet 10 inches, assaying $13 gold and silver a trace, equals $13 per ton. The value of the ore has been gradually decreasing, and there is every indication the western boundary of the ore shoot has been reached. The length of the ore body (locally called "No. 3 Ore body") is 175 feet. It is our intention to continue this level westward, and we trust shall cut other ore bodies.—77 feet vein, raise above 4th level, west. Reported height 73 feet, advanced for the month 21 feet. Total height 94 feet. Average width of vein for the month 2 feet 6 inches, assaying $16·70 in gold and $1 in silver, equals $17·70 per ton.—77 feet vein 6th level west. Reported length 55 feet, advanced for the month 32 feet. Total length 87 feet. This level is being driven towards the No. 2 orebody on the 77 feet vein. The present grade of the ore is low.—No. 9 east footwall crosscut. A crosscut was driven from the footwall of the 77 feet. Vein near the face of No. 9 east, and carried 43 feet, as reported on the monthly report for February. At this point it entered a branch of ore; on this we have driven 47 feet in a westerly direction. Average width of vein 3 feet, assaying $16·45 in gold and $8·13 in silver, equals $24·58 per ton. This branch is doubtless an off-shoot of the 77 feet vein.—77 feet vein, 10th level, east. Reported length 472 feet, advanced for the month 48 feet, total length 520 feet. By reference to former reports you will notice that for some time past we have been expecting to enter the orebody coming down from the 9th level east. During the past month this has been accomplished. The orebody has developed a length of 25 feet, and an average value of $20 per ton, chiefly gold. The width of the paying ore is 4 feet. The face of the level is again in very low grade and broken vein matter. Judging from the developments on the 10th level, both longitudinally and laterally, it is very evident that the ore-bodies are shortening in length, and narrowing in width, as compared with the levels immediately above; and the outlook for large bodies in depth is not encouraging.—No. 6 vein, raise above the 10th level, east. This raise was put up from the 10th to intersect the winze, coming down from the 9th level, for convenience sake. Its height is 34 feet; it has passed through unproductive vein matter, being west of the line of ore shoot. All the other exploratory working in the De Lamar group are unchanged.—Summercamp group. Reported length of the main crosscut is 241 feet; advanced for the month, 23 feet; total length, 264 feet. There is nothing to report. The winze, which is now 26 feet deep, shows the vein 3 feet 6 inch wide, of low-grade ore on the whole, with bunches of good ore occasionally.—Milling department. The stoppage of the mill on April 1 was of short duration, allowing time for clean-up and a few necessary repairs.

CONSOLIDATED GOLD MINES OF WESTERN AUSTRALIA.—Information has been received from the manager of the above-named company on the following properties, all of which belong to the Consolidated Company:—Augusta. Result of second mill test, 76 ounces for 75 tons; have struck water in wells; removing machinery. Mine has improved.—Peewah. Work is progressing satisfactorily.—East Mallina, Extended, and West Mallina. These properties are being opened to the best advantage. Awaiting the arrival of machinery.—Nicol properties, comprising the Nicol Mine (the Great Chirritta Lode), Lord Byron, Westward Ho, and Oriental.

ALAMILLOS.—Mine report, dated April 24;—In the 85 fathoms level, driving west of Taylor's engine shaft, the lode is poor, and the granite is hard for driving through. The lode in the 160 west of the same shaft is strong, and produces good stones of lead, and is valued at ¼ ton per fathom. In the 100 east of Judd's engine shaft the lode is of no value. Carillo's winze, sinking below the 145 fathoms level, has now been holed to the 160 fathoms level.

ALMADA AND TIRITO.—Mine report for the month ending March 30: Dios Padre. The lode in the 250 feet level driving north is poor and small, showing only occasional stains of copper; 20 feet were driven by four men.—Guadalupe. Good stones of ore are occasionally broken in the tunnel driving south from Ibarras cutting, and the lode throughout has had a very congenial appearance. This was extended during the month 34·9 feet by five men. The sinking of No. 1 shaft was commenced in the second week of the month, and it is now 26 feet deep. The ground is fairly hard, but we have found it necessary to timber the first 10 feet. This shaft is placed 100 feet east of the outcrop, and, according to known dip of the lode should cut it at from 160 to 180 feet deep. We are clearing out an old shaft 400 feet north of the above shaft, and which is said to be about 100 feet deep. This (No. 2) shaft will cut the lode about the same depth as the No. 1. The masons are making bricks, and we shall commence immediately to build smithy, storehouse, small office, &c. I have increased the number of men throughout, and we shall now make as much progress as possible.—Stopes. These continue to yield small quantities of good grade ore above the tunnel at Tirito, and in the 12 and 24 fathom levels at Balvanera.—(Signed) John Nute.

BRILLIANT BLOCK.—Mine manager's report for the fortnight ending March 6; Underlie shaft again started; present bottom 23 feet below No. 7 plat. Reef 3½ feet, 18 to 20 dwts.—No. 7 level west. Total length 79 feet. No stone in face. Reef in stope 16 inches, 12 to 16 dwts.—No. 7 level east. Total length 80 feet. Reef 1½ feet, 15 dwts. In stopes 1 to 4 feet, 15 to 30 dwts.—No. 6 level west. Total length 291 feet. Reef 2 feet thick, 12 to 14 dwts. Stopes 2½ feet thick 10 to 12 dwts.—No. 6 level east. Total length 308 feet. Reef 4 feet, 15 dwts. Leading stope reef 5 feet, 15 to 20 dwts. Four of the stopes 6 inches to 4 feet, 15 dwts.—No. 5 level west. Winze 49 feet deep. Reef 2½ feet, 12 dwts.—No. 5 level east. Two stopes H.W. reef 1 to 2 feet, 20 dwts. Stopes F.W. reef 2 feet, 1½ ounce.—Flat reef. Reef 1 foot, 15 to 25 dwts.—No. 4 level west. Reef 20 inches, 14 to 17 dwts.—No. 4 level east. Crosscut started to intersect flat reef, which is being worked under.

BAYLEY'S REWARD No. 1 SOUTH (Coolgardie, Western Australia).—Mining report, dated March 11: Main shaft. Since last report the opening out the chamber at the 170 feet level has been continued, and which I hope to complete sufficiently to enable us to start driving south within the next few days.—Winze. Winze at the 90 feet level has been sunk 6 feet, total being 18 feet from drive. Lode still large, very hard, and showing a little gold as formerly.—Condenser. The condenser and the necessary appliances have now been fixed to the battery engine, and we have to-day started crushing to give it a trial. For a day or two we shall not be working full time, as I think there will be some slight alterations required, and we wish to see what the consumption of water will be. The condenser will doubtless make a very great difference, and if possible the battery will now be kept going. I trust the water expense will not be too great. The cost of purchase and cartage will be 2½d. per gallon, which is the cheapest for which it can be obtained.—Gold dispatched. As advised by telegraph on the 8th there was dispatched by escort 54 ounces 16 dwts. of bar gold.—(Signed) W. H. Matthews, manager.

BAYLEY'S REWARD.—Mining report, dated 11th March: Sylvester shaft. In sinking the main shaft during the week good progress has been made, it having been sunk a further depth of 7 feet, total now being 379, leaving 11 feet more to sink previous to opening out the fifth level.—220 feet level. Winze at the 220 feet level has been sunk 7 feet, total 13 feet from brace. In the lode there is no change to report, it still being strong, well-defined, and highly mineralised.—Gordon shaft. North stope Gordon shaft, 50 feet level, yielding stone of average grade. Lode being 6 feet wide, and is being passed through the battery.—South stope. South stope from the back of the south drive continues to return very fair stone, gold being frequently seen, and is also being crushed as raised from the shaft. Intermediate No. 1 is also yielding stone of average value. Lode 7 feet wide, and is being taken to the battery. Cockshott shaft has been sunk 4 feet, full depth being 94 feet from brace. The reef, which was at the time of my last letter very small, has opened out again the full width of the shaft.—Air shaft. North drive has been advanced 6 feet, total 59 feet. No particular change to report in lode, which, I believe, is fair battery stone, and is put on one side at present for that purpose.—Everard shaft. Crosscut or drive from the end of the Big Blow has been driven 3 feet, total 29 feet. Lode continues about the same course, and apparently very wide, being full width of drive, and no western wall visible, the stone being of a very promising character. I am in hopes as it is continued that some high grade stone will be met with shortly.—Lode croppings. Having removed some of the ore dumps at Gordon shaft, which covered a portion of the alluvial or lode croppings, this work for a short time has again been resumed, and during the week the result has been very fair, both with the Terra Secca machine and screens, there being both fine and coarse gold obtained, the quartz being taken to the battery.

BRITISH BROKEN HILL PROPRIETARY.—Mining manager's report for the week ending March 20: Blackwood (No. 1) shaft. 240 feet level. Fair progress is being made with the excavation for plat on western side of shaft.—Howell (No. 2) shaft. 300 feet level. West crosscut off main north drive extended 13 feet, total length 46 feet. Face entering harder sulphides, but of low grade so far. North-east drive driven 17 feet, total length 132 feet. Face in country, carrying bunches of quartz. We have commenced an easterly crosscut off main north drive, immediately opposite west crosscut, and have driven same 5 feet through a mixture of sulphides and quartz of a hard nature.—Marsh (No. 6) shaft. Second level. West crosscut off south drive down winze stopes extended 10 feet, total length 22 feet. We are opening up some very fair grade carbonate ore down here now. We have resumed work in south-west drive again near junction boundary, and have lengthened same 3 feet, total length 93 feet. Face in fair grade sulphide ore. Have started a No. 2 west crosscut off main north drive at point about 70 feet north of No. 1 crosscut from shaft, and have driven same 6 feet through country carrying blotches of sulphides. A No. 2 east crosscut started about 90 feet north of No. 1 crosscut from shaft was put in 5 feet. Face showing iron-stained mullock. In the long east crosscut near north boundary we have driven southwards 10 feet on a patch of sandstone, which showed on south side of crosscut; but this has pinched out, and work has, therefore, been suspended. We are now going to start work overhead to prospect on this lode. We have broken carbonate ore in driving and cleaning up the workings, 1 ton assaying 23 per cent. and 77 ounces, 14 tons averaging 24 per cent. and 56 ounces, 3 tons 20 per cent. and 45 ounces, 3 tons 20 per cent. and 15 ounces, and 3 tons 33 per cent. lead and 38 ounces silver per ton, and of sulphide ore we broke 3 tons, averaging 22 per cent. zinc, 28 per cent. lead, and 12 ounces silver per ton. The assays of carbonate ore for the week vary from 12 per cent. to 46 per cent. lead and 6·6 to 161 ounces silver per ton; and of sulphide ore from 2 to 34 per cent. lead, 4·9 to 156 ounces silver, and 20·5 to 28 per cent. zinc per ton.

CALIFORNIA MILLING AND MINING.—The following is the manager's report on the mill and mine for March month:—Mill. Custom ore treated, 1390 tons; California ore, 88 tons; total, 1478 tons, with an average of 50 stamps at work.—Mine. There has been a distinct improvement in the Governor Adam's vein at the 300 level east, where there is now a promising little vein, yielding ore of over 2 ounces per cord in the mill. We are now running the mill entirely by water power, saving the heavy monthly item for fuel, and are keeping 50 stamps steadily at work, so even without any further increase in the supply of custom ore our profit for the month of April should show a considerable improvement. Total receipts for March, $3900·50; total expenses, $3381·07; profit, $519·43.

CRAVEN'S CALEDONIA.—The following fortnightly report has been received from the mine, dated Charters Towers, March 15:—The No. 11 level has been extended a further 17 feet, making a total of 60 feet from the slide. The reef is about 10 inches thick in the face of this drive at present. In the first three stopes over this level the reef is pinched a little, but in the others the reef is about 8 inches thick, and seems to be improving in quality. In the underhand stope from No. 9 level the reef is about 10 inches thick, of very good quality. In the three stopes over No. 9 level the reef is about 8 inches thick. The drive on the fault in No. 8 has been extended a further 14 feet, making a total of 182 feet from starting point. I now expect to get the reef at any time in this crosscut. The total amount of quartz hauled through the two shafts for the fortnight is 28 tons, making a total of 150 tons towards the present crushing. (Signed) G. Cabassi.

CHAMPION REEF.—Superintendent's report for fortnight ending April 8: Garland's shaft. This has been sunk 13 feet, total depth 888 feet 9 inches. Lode 2½ feet wide, assaying 2 ounces 11 dwts. 7 grains of gold per ton. The 840 feet level north has been driven 30 feet, total length 231 feet 9 inches. Lode 2½ feet wide, assaying 2 ounces 10 dwts. 2 grains of gold per ton. No. 1 rise in back of level risen 9 feet 6 inches, total height 29 feet 6 inches, and communicated with winze below 740 north. The 84 south driven 31 feet 6 inches, total length 254 feet. Lode 2 feet wide, assaying 1 ounce 11 dwts. 4 grains of gold per ton. No. 1 new rise in back of level (120 feet from the shaft) risen 15 feet 3 inches. Lode 5½ feet wide, assaying 15 dwts. 2 grains of gold per ton. The 740 north driven 34 feet, total length 460 feet. Lode 4 feet wide, assaying 2 ounces 1 dwt. 2 grains of gold per ton. Winze below level sunk 8 feet, total depth 64 feet 9 inches, and communicated with rise in back of 840 north. No. 2 rise in back of level risen 21 feet 6 inches, total height 56 feet 6 inches. Lode 1 foot 6 inches wide, assaying 1 ounce 8 dwts. 12 grains of gold per ton. No. 3 new rise in back of level, 120 feet north of No. 9, risen 10 feet 3 inches. Lode 1 foot 6 inches wide, assaying 1 ounce 5 dwts. 8 grains of gold per ton. The 740 feet level south driven 23 feet 6 inches, total length 371 feet 3 inches. Lode 1 foot 6 inches wide, assaying 13 dwts. of gold per ton. The 630 feet level north of west crosscut driven 25 feet, total length 559 feet 9 inches. Lode small and without value. Crosscut west of this level driven 4 feet 6 inches, total total 33 feet. Not having met with anything of importance, we have suspended the driving. No. 4 winze below 530 north of west crosscut sunk 12 feet 6 inches, total depth 22 feet. Lode 2½ feet wide, assaying 2 ounces 4 dwts. 4 grains of gold per ton. No. 9 rise in back of level on east part of lode risen 22 feet 6 inches, total height 28 feet 6 inches. Lode 2½ feet wide, assaying 1 ounce 17 dwts. 10 grains of gold per ton.—Ribblesdale's shaft. This has been sunk 5 feet, total depth 590 feet 6 inches. Lode small and without value. We hope soon to get the shoot of ore in this shaft that has been followed down from the 240 north of Garland's to the 540 south of this shaft. The 540 feet level north of shaft on west part of fold has been driven 31 feet 3 inches, total length 590 feet 6 inches. Lode 2½ feet wide, assaying 1 ounce 15 dwts. 2 grains of gold per ton. New rise in back of level risen 12 feet 3 inches, total height 12 feet 3 inches. Lode 2½ feet wide, assaying 1 ounce 19 dwts. 3 grains of gold per ton. This rise is being put up to communicate with Carmichael's shaft sinking below 440 on west part of fold. The 540 north of east crosscut on middle part of fold has been driven 23 feet 6 inches. Lode 3½ feet wide, assaying 1 ounce 18 dwts. 14 grains of gold per ton. The 540 south of crosscut, east of 540, south of shaft, driven 26 feet 6 inches, total length 88 feet. Lode 1 foot 6 inches wide, assaying 12 dwts. 3 grains of gold per ton. The 440 feet level south of No. 2 crosscut, west of 440, south of east crosscut, driven 9 feet, total length 61 feet 6 inches. This is communicated with 530, north of Garland's shaft, 440 feet level south of No. 1 west crosscut, driven 17 feet 6 inches, total length 65 feet. This is communicated with No. 2 west crosscut. New incline winze north of No. 1 west crosscut sunk 20 feet 9 inches. Lode 5 feet wide, assaying 2 ounces 13 dwts. 7 grains of gold per ton. This is going down on back of shoot. Incline rise south of east crosscut, at 440 south, risen 2 feet, total height 164 feet 9 inches. Crosscut west from top of this rise has been driven 24 feet, total length 38 feet, and is communicated with 340 incline winze. The incline winze north of east crosscut, at 440 south, sunk 18 feet 3 inches, total depth 205 feet 6 inches. Lode 1 foot 6 inches wide, assaying 16 dwts. 12 grains of gold per ton. The 340 feet level north of crosscut, east of 340 south of shaft, driven 1 foot; total length 131 feet 3 inches. Lode 1 foot wide, assaying 5 dwts. 5 grains of gold per ton. This is suspended. Incline winze below level sunk 24 feet 6 inches; total depth, 208 feet 6 inches. Lode 5 feet wide, assaying 1 ounce 18 dwts. of gold per ton. No. 2 winze below level sunk 8 feet 9 inches; total depth, 69 feet. Lode 4 feet wide, assaying 1 ounce 11 dwts. 4 grains of gold per ton.—Carmichael's shaft. This has been sunk 7 feet 6 inches; total depth below the 440 feet level, 39 feet. Lode 2 feet wide, assaying 2 ounces 17 dwts. 16 grains of gold per ton. Owing to a horse of hard hornblendic schist being between this part and in the middle part of the fold, we have left the middle part and are now carrying down the shaft on west part, which we consider the main part of the lode. The 315 crosscut west of shaft has been driven 17 feet, total length 713 feet. There is no alteration as yet in the strata.—Rowe's shaft. This has been sunk 10 feet, total depth below the 415 feet level 67 feet. Lode 2 feet wide, assaying 3 ounces 8 dwts. 9 grains of gold per ton. Rise in back of 415 north of shaft risen 10 feet, total height 32 feet 6 inches. Lode 1 foot 6 inches wide, assaying 2 ounces 8 dwts. of gold per ton. Winze below 415 south sunk 11 feet 3 inches, total depth 85 feet. Lode 4½ feet wide, assaying 1 ounce 13 dwts. of gold per ton.—Stopes. Stope below 620 north of north winze cut 16 fathom 6 inches. Lode 1 foot 6 inches wide, assaying 18 dwts. of gold per ton. Stope below 620 north of south winze cut 11 fathoms. Lode 3 feet wide, assaying 15 dwts. of gold per ton. Stope in back of 620 north of 530 north winze, cut 8 fathoms 4 feet 9 inches. Lode 2½ feet wide, assaying 18 dwts. 4 grains of gold per ton. Stope in back of 620 north of north rise cut 32 fathoms 5 feet. Lode 8 feet wide, assaying 1 ounce 18 dwts. 4 grains of gold per ton. Stope in back of 620 south of 530 south winze cut 7 fathoms 3 feet 9 inches. Lode 2½ feet wide, assaying 18 dwts. 8 grains of gold per ton. Stope below 440 north of north winze cut 7 fathoms 2 feet. Lode 3 feet wide, assaying 1 ounce 7 dwts. 4 grains of gold per ton. Stope south of winze cut 8 fathoms 5 feet 3 inches. Lode 4 feet wide, assaying 1 ounce 2 dwts. 11 grains of gold per ton. Stope below 440 south of south winze cut 6 fathoms 2 feet. This is suspended. Stope north of winze cut 12 fathoms 3 feet. Lode 2 feet wide, assaying 1 ounce 13 dwts. 6 grains of gold per ton.—Garland's shaft. Stope in back of 740 south of No. 1 north rise cut 10 fathoms 5 feet. Lode 5 feet wide, assaying 1 ounce 12 dwts. 16 grains of gold per ton. Stope in back of 630 north of No. 1 north rise cut 11 fathoms 4 feet 9 inches. This is suspended for a time. Stope north of No. 2 north rise cut 3 fathoms 3 feet. Lode 3 feet wide, assaying 1 ounce 1 dwt. 4 grains of gold per ton. Stope in back of 530 north of No. 6 north of rise cut 26 fathoms 5 feet 6 inches. Lode 3 feet wide, assaying 15 dwts. 15 grains of gold per ton. Stope south of No. 7 north, rise cut 4 fathoms 5 feet 6 inches. Lode 3 feet wide, assaying 2 ounces 1 dwt. 15 grains of gold per ton. Stope north of No. 6 north, rise cut 5 fathoms 9 inches. Lode 3 feet wide, assaying 1 ounce 13 dwts. 2 grains of gold per ton. Stope north of No. 5 north rise cut 23 fathoms 4 feet 3 inches. This is suspended for a time. Stope in back of 530 south north of south rise cut 15 fathoms 0 feet 9 inches. Lode 3 feet wide, assaying 1 ounce 5 dwts. of gold per ton. Stope in back of 440 south of No. 7 north rise cut 17 fathoms 4 feet. Lode 5 feet wide, assaying 2 ounces 13 dwts. 6 grains of gold per ton. Stope north of No. 6 rise cut 16 fathoms 1 foot 9 inches. Lode 7 feet wide, assaying 2 ounces 11 dwts. 3 grains of gold per ton. Stope north of No. 5 rise cut 9 fathoms 4 feet. This is suspended for a time. Stope south of No. 2 rise cut 8 fathoms 5 feet 9 inches. Lode 3 feet wide, assaying 18 dwts. 5 grains of gold per ton. Stope north of rise cut 11 fathoms 3 feet 6 inches. Lode 4 feet wide, assaying 1 ounce 9 dwts. 6 grains of gold per ton. Stope in back of 440 south of west crosscut north of rise cut 17 fathoms 5 feet 6 inches. Lode 2½ feet wide, assaying 1 ounce 6 dwts. of gold per ton. Stope below 340 north of north winze cut 8 fathoms 1 foot 6 inches. Lode 5 feet wide, assaying 1 ounce 8 dwts. 6 grains of gold per ton. Stope below 340 south of north winze cut 9 fathoms 2 feet 6 inches. Lode 4 feet wide, assaying 1 ounce 15 dwts. of gold per ton. Stope in back of 240 north of No. 2 north rise cut 12 fathoms 2 feet 9 inches. Lode 2 feet wide, assaying 1 ounce 1 dwt. 6 grains of gold per ton. Stope south of No. 1 rise cut 11 fathoms 4 feet 3 inches. Lode 2 feet wide, assaying 1 ounce 20 grains of gold per ton.—Ribblesdale's shaft. Stope in back of 540 north, north of 440 north winze cut 5 fathoms 4 feet. This is suspended. Stope in back of 340 north on fold cut 9 fathoms 1 foot 3 inches. Lode 8 feet wide, assaying 2 ounces 5 dwts. 8 grains of gold per ton. No. 1 stope below 240 north of north winze cut 7 fathoms 4 feet 6 inches. This is suspended for a time. No. 2 stope north of winze cut 3 fathoms 3 feet. Lode 6 feet wide, assaying 2 ounces 12 dwts. 10 grains of gold per ton. Stope in bottom of 200 north of 240 south rise cut 4 fathoms. This is suspended for a time. No. 1 stope north of No. 2 rise in back of 240 south cut 10 fathoms 3 feet 9 inches. Lode 6 feet wide, assaying 1 ounce 11 dwts. 10 grains of gold per ton. No. 2 stope north of rise cut 11 fathoms 5 feet 6 inches. Lode 4 feet wide, assaying 1 ounce 12 dwts. 16 grains of gold per ton. No. 3 stope north of rise cut 10 fathoms. Lode 6 feet wide, assaying 1 ounce 19 dwts. 6 grains of gold per ton. No. 1 stope south of No. 1 rise cut 8 fathoms. Lode 4 feet wide, assaying 1 ounce 15 dwts. 6 grains of gold per ton. No. 2 stope cut 5 fathoms Lode 6 feet wide, assaying 1 ounce 14 dwts. 6 grains of gold per ton. Stope north of rise cut 8 fathoms 1 foot 6 inches. Lode 2½ feet wide, assaying 1 ounce 11 dwts. 4 grains of gold per ton. The above stoping is for March month.—Returns. During March month 3870 tons quartz were stamped, which produced 5408 ounces of gold. 1100 tons of tailings were treated, which yielded 232 ounces of gold. A total yield of 5640 ounces of gold.

COROMANDEL.—Superintendent's report for the fortnight ending April 6.—Prospect shaft, 500 feet crosscut west. After opening a few feet each way on the branches discovered in this crosscut we have withdrawn the rock-drill and placed it to crosscut east from the 500 south, leaving the other drivages to be continued by hand labour. No improvement is noticeable in the branches referred to, and the assay value is still very low.—500 feet level north. Since last report we have opened 32 feet on the new shoot, 20 feet north and 13 feet south of the point of intersection. The lode has varied from 6 feet 6 inches to 1 foot 6 inches in present north end, where it is worth by assay 11 dwts. 6 grains of gold per ton. In the south end the lode is four feet 6 inches wide, and assays 3 ounces.—No. 2 rise back 440 feet on new shoot. This being sufficiently high for the 320 feet levels at Prospect shaft, we have stopped the rise and started levels north and south. Progress for fortnight: Rise 15 feet, drifts 12 feet 6 inches; total, 27 feet 6 inches; lode 2 feet 6 inches to 3 feet wide, assaying 5 dwts. per ton.—No. 3 rise back 440 feet on new shoot risen 20 feet, last 12 feet of which has been on a "fold." Lode at point of fold was very rich, but in present face, where the quartz is 4 feet 6 inches wide, the assay value is 15 dwts. per ton.—Rise back 440 feet west of dyke, risen by hand labour 6 feet 3 inches; total, 86 feet. Lode 2 feet wide, and improving in appearance; worth 6 dwts. 6 grains of gold per ton.—200 feet level north-east end still in dyke, and hard to drive. Progress 25 feet. Total distance from shaft 185 feet.—200 feet level north on lode. Driven by hand labour 5 feet, which is its total distance from crosscut north-east. Lode 1 foot wide, of white crystalline quartz, assaying 2 ounces 14 dwts. of gold per ton.

CUMBERLAND GOLD (North Queensland).—March 4: I beg to submit my report for month of February: No. 5 level north. This level is now driven 470 feet. There has been little change while driving the last 50 feet; bunches of ore have continued to show irregularly in the formation. It is my intention to take in a leading stope, commencing at a point 385 feet north of No. 2 shaft, right into the present face, rising up towards No. 4 level.—No. 4 level north. The intermediate level referred to in my last report being 20 feet lower than the old level, is now driven a distance of 95 feet from No. 2 winze. When this level is driven about 50 feet further, I desire to sink a winze to meet the men rising from No. 5 level, to open up the ground for stoping and ventilation. I have started four men stoping from this level up to No. 3 level.—No. 2 level north. I have raised 19 tons of ore from this level, which are now being treated at the mill. Patches of ore are still showing on the footwall, and I shall continue stoping so long as there is ore in sight.—Boiler. I regret being compelled to report that the Cornish boiler at the mine is no longer fit for use. The water from the mine—which is very bad every wet season, owing to surface water passing through the old workings into the shaft—having eaten into the plates to such an extent that in some places scarcely more than a shell of the boiler remains. As a consequence, operations in the mine have been suspended since the 21st of February. Arrangements have been made, however, for another boiler, which will probably arrive about March 11, so that I hope we shall be in position to resume work a week after that date.—Anthony Gallagher.

FORTUNA.—Mine report, dated April 24:—Canada Inccsa Mine. In the 110 fathoms level, driving west of San Pedro's shaft, the lode continues regular, and is well defined, and is valued at ¾ ton per fathom.—Los Salidos Mine. The lode in the 200 east of Taylor's engine shaft is small, and has declined in value. In the 105 east of Palgrave's shaft good stones of ore are occasionally met with.

GOLD FIELDS OF MYSORE.—Mine report for fortnight ending April 8: Oriental lode, south shaft. We have not as yet completed the drawing out of the water accumulated in the shaft during the cutting top and bottom plats at the 38 feet level. So nothing has been done in the 470 feet level north and south of shaft. At the 380 feet level north of shaft we have had to raise the roof of the level and sides to enable us to drive the end by rock-drill. This has now been completed, and we have extended the end north 2 feet 9 inches, total length 276 feet. Lode 9 inches wide, assaying 15 dwts. 3 grains of gold per ton. The 380 feet level south has been extended by rock-drill 18 feet 10 inches, total length 306 feet 5 inches. Lode 2½ feet wide assaying 7 dwts. 15 grains of gold per ton. The 280 crosscut east has been extended 16 feet, total length 314 feet 9 inches. The strata is changing a little, being composed of a softer schist traversed by joints of carbonate of lime.—Middle shaft. We have almost completed the retimbering of this shaft. A delay been caused by sickness amongst the European employees engaged about the work.—Skip-road. We are making preparations to fix a double skip road in south shaft, and whilst this is being carried out, we shall not be able to do much in exploring the lode at the 350 north and south of shaft.—Mill. I am pleased to say that this is nearly completed, and we hope to start same next week.

GOLD FIELDS OF MYSORE.—Fortnightly report on prospecting operations dated April 9: West Balaghat block, No. 1 shaft. The 117 feet level north has been driven 6 feet 9 inches, total distance 167 feet. The lode is 18 inches wide, assaying 13 dwts. 4 grains of gold per ton. The south level has been driven 2 feet 6 inches, total distance 140 feet 9 inches. The quartz is 3 feet wide, assaying 8 dwts. 12 grains of gold per ton.—No. 2 shaft. The 100 feet level north has been driven 4 feet, total distance 143 feet 2 inches. The quartz 2 feet wide, and assays 18 dwts. 2 grains of gold per ton. The south level has been driven 4 feet 3 inches, total distance 157 feet 9 inches. The quartz is 15 inches wide, assaying 9 dwts. 16 grains of gold per ton.—No. 3 shaft. This has been sunk 3 feet, total depth 160 feet 3 inches. The lode is 2 feet wide, assaying 7 dwts. 3 grains of gold per ton. The 117 feet level north has been driven 3 feet 9 inches, total distance 75 feet 9 inches. The quartz is 1½ feet wide, assaying 1 ounce 1 dwt. 2 grains of gold per ton. The south level has been driven 7 feet, total distance 165 feet 6 inches. The quartz is 1 foot wide, assaying 3 dwts. 10 grains of gold per ton.—No. 4 shaft. The 148 feet level north has been driven 4 feet, total distance 65 feet. The lode is 1 foot wide, assaying 7 dwts. of gold per ton. The south level has been driven 3 feet, total distance 53 feet 3 inches. The lode is 2 feet wide, assaying 8 dwts. of gold per ton.—Road block, north shaft. The north level from bottom of shaft has been driven 9 feet 9 inches, total distance 109 feet 3 inches. The lode is 1½ foot wide, assaying 9 dwts. 5 grains of gold per ton. The south level has been driven 6 feet, total distance 116 feet 9 inches. The lode is 1 foot wide, assaying 12 dwts. 8 grains of gold per ton.

HANNAN'S REWARD.—Extract from the manager's report March 22: Crosscut between Edwardes and Trounce shafts. Completed distance between the two shafts 300 feet. We have now

splendid ventilation. The vein of quartz we passed through is small, but when we come to drive on its course, I think it will improve in size. No. 2 reef east drive has been extended a further distance of 8½ feet, total to date 120 feet. The reef is 4 inches wide of 1¼ ounce stone. No. 5 reef winze has been sunk a further depth of 2½ feet, total to date 32½ feet. We picked up the reef 4 feet to the south; in the bottom it is 6 inches wide of 2 ounces stone. The bottom of the winze is full of small quartz veins, and by present appearances it looks as if No. 5 reef is going to make into a large reef. No. 6 reef winze has been sunk a further depth of 8½ feet, total to date 53½ feet. The reef is 2 inches wide, of 11½ ounces stone.

KEMPINKOTE.—Fortnightly report of Captain D. H. Williams, mine agent, dated April 8: Garland's shaft. The cutting of top plat at the bottom of this shaft, 345 feet from surface, is complete. We shall now sink the shaft and cut the bottom plat at the same time. —245 No. 1 crosscut west, 100 north main crosscut has been driven 9 feet 6 inches, total distance from footwall 27 feet. The whole of this distance has been through lode. The lode in the end is the full width of the drive, assaying 5 dwts. 15 grains of gold per ton of stuff. 245 north drive has been driven 29 feet 6 inches, total distance from main crosscut 169 feet. We are carrying about 6 feet of the lode upon the footwall, assaying 3 dwts. 4 grains of gold per ton of stuff. 245 south drive has been driven 27 feet 3 inches, total distance from main crosscut 134 feet 6 inches. About 127 feet from main crosscut the lode again made a sharp turn into the footwall. The lode in the end is the full width of the drive, assaying 2 dwts. 7 grains of gold per ton of stuff. Henry's shaft has been sunk 5 feet 6 inches, total depth from surface 284 feet 6 inches. The bottom of shaft is still in hard schist, with stringers of white quartz running through it. 258 south drive has been driven 26 feet 9 inches, total distance from main crosscut 54 feet 3 inches. No change. The 173 north drive has been driven 5 feet 9 inches, total distance from the shaft 71 feet. We are carrying about 5 feet of the lode with the hanging-wall showing a trace of gold.—Prospecting "Big Pit." No. 10 trial pit in south-east corner of big pit has been sunk to a depth of 43 feet; 33 feet from surface we met with the footwall running approximately east and west and dipping north. This we followed down 10 feet, when we unbottomed the old workings and discovered a lode about 2 feet 6 inches wide, assaying 7 dwts. 6 grains of gold per ton of stuff. Upon this we have started to drive west.—Madihulli Block. No. 9 trial pit 50 feet south No. 7 has been sunk 9 feet, total depth from surface 33 feet; 26 feet from surface we unbottomed the old workings and met with the lode about 4 feet wide running north and south, and dipping a little to the west, assaying 3 dwts. of gold per ton of stuff. 28 feet from surface we crosscutted east of shaft 5 feet, and west 4 feet. Nothing of value was met with in either of these. The bottom of the pit is in lode showing gold in the pan. Having met with water we were obliged to suspend operations. We put the coolies to sink a trial pit about 70 feet south of the above, and have sunk it 20 feet, 17 feet from surface we unbottomed the old workings and met with the lode 2 feet 6 inches wide carrying gold; in this we have sunk 3 feet. Lode in the bottom 2 feet 6 inches wide.

CHAMP D'OR DEEP.—Extract from the manager's report for March: The total development for the month of March amounts to 705 feet. The total development of the mine to date is 10,064 feet, exclusive of 1250 feet of shafts. The whole of the stoping has been stopped as requested by you. Your stopes are all in thorough good order, being secure and well timbered. Ore milled 3974 tons, 30 stamps. Working time 26 days 21 hours 51 minutes. Average milling of 4·93 per stamp per day. The mill has been cleaned up as directed by you, your "large plates" being left in good order.—Yield of amalgam. Large plates, 173 lbs.; sundries, 103¾ lbs.; total, 276¾ lbs.

LINARES.—Mine report dated April 24: Pozo Ancho Mine. The 200 fathoms level driving south of Peill's engine shaft. The men are getting on well with this work. The lode in the 200 fathom level driving west of Peill's engine shaft is wide, and produces some stones of ore. In the 155 west of the same shaft the lode is regular, and looks promising, and is valued at ½ ton per fathom. The lode in the 178 west of Warne's crosscut continues very wide and strong, and is estimated at 1½ ton per fathom. No. 277 winze sinking below the 155 fathom level has been now holed to the 178 fathom level. The lode was valued at 1½ ton per fathom.—Los Quinientos Mine, Taylor's engine shaft. In the 185 east the lode continues to produce good lumps of ore, and is valued at ¾ ton per fathom. The 165 east is still laying open good stoping ground, worth 1 ton per fathom. The lode in the 150 east is large, but is chiefly composed of carbonate of lime. The lode in the 130 east is small and unproductive. Vicente's winze sinking below the 150 fathom level is holed to the 165 fathom level. Isadoro's winze sinking below the 150 fathom level. This winze is situated east of Taylor's engine shaft and in advance of the 165 fathom level, valued 3 tons per fathom.

MILLS' DAY DAWN UNITED.—Mine manager's report for the fortnight ending March 8: Underlie shaft sunk and timbered 8 feet, total below No. 9 plat 56 feet.—No. 9 west level. Timbering first 60 feet. Stoping will commence on 2 feet fair quality stone. No. 8 west level, main reef, total length 161 feet. Reef cut out in bottom of drive; it averages 4 feet in the stopes medium quality.—No. 8 west, hanging wall drive. Reef increased to 2 feet fair quality. This drive will open up 200 feet of H. W. reef. It has been driven 19 feet. Stopes over H. W. crosscut 18 inches good quality. No. 7 west footwall stope, reef 2 feet 6 inches medium quality.—No. 6 west level, Main Reef. Stopes 4 feet fair quality. F. W. stopes 2 feet heavy mineral stone.—No. 5 east, No. 2 crosscut. Commenced to rise 20 feet from face. Rise is up 8 feet, A rock-drill will now be used. No. 4 level east, No. 3 crosscut, total length 118 feet, hard granite country.

MOUNT LYELL.—The London board have received the following report from the Melbourne board for the week ending March 13: No. 1 crosscut, No. 1 tunnel. This crosscut was driven 10 feet, total 34 feet. At this point we broke through into the old tunnel driven by the previous company. We are now clearing out and retimbering this.—North drive, No. 3 tunnel. This drive has been advanced 14 feet, total 87 feet. The country is somewhat harder than it was, otherwise no change.—Indicator winze. The winze has been sunk 3 feet, total 84 feet. Still sinking in fair grade copper pyrites. —North drive, No. 4 tunnel. The face has been advanced 8 feet, total 100 feet. The ground has been tighter than it was, consequently progress has been slower.—No. 1 rise, 50 feet level, south drive, engine shaft, No. 4 tunnel. Work has been resumed here, a fresh pare of contractors having made a start on Monday last.—North drive, 100 feet level, engine shaft, No. 4 tunnel. This drive has been advanced 2 feet, total 104 feet. The pyrites are coming back to their usual course again.—South drive, 100 feet level, No. 2 shaft, No. 4 tunnel. This drive has been advanced 3 feet, total 13 feet. The pyrites are still very hard.—No. 5 tunnel. During the past week no work has been done in the main face, the men having been shifted to repair a portion of the tunnel where it passes through some swelling ground.—Ore sampled and bagged from the dump, 112 bags of ore weighing 7 tons, and containing 3115 ounces of silver and 1 ton 8 cwts. 3 qrs. 25 lbs. of copper.—Progress report for the week to March 13: Main line. Extension to brick plant Earthworks completed, and rails laid to Queen river bridge. Bridge over Conglomerate creek completed. Bridge over Queen river three piers in.—Abt siding. Bridge over Queen river delayed by floods. Earthworks in progress to 30 chains. Store room finished at Station yard.—Through tram. Earthworks completed to junction with haulage line.—Haulage line. Earthworks making good progress.—Smelter site. Excavation nearly completed.—High pressure reservoir. Benching complete and main excavation started. Race for fluming being cut and boards delivered on ground.—Lime kiln. Working well and making excellent lime.

MOSMAN.—Mine manager's report for the fortnight ending March 16:—North Australian Mine. Nothing fresh to report. Stopes are turning out stone as usual, of rather better quality. —Peabody mine. Shaft sunk 20 feet; total from surface, 107 feet. Water heavy. Ground hard.—Wyndham Mine. Underlie shaft sunk 14 feet; total below 13 level 100 feet. Stone has made in the bottom exceptionally good quality. Water heavy.—13 level north. Total length, 370 feet. No reef at present.—8 level south. Total length, 178 feet. Reef 10 inches fairly good stone on footwall formation.—9 level south. Stoping at back of level on 4 inch to 12 inch good quality stone.—6 level south. No work during past fortnight.—Rainbow tribute. Stopes are yielding stone of good quality from a reef averaging 10 inches to a foot.

NEW COLORADO SILVER.—The following has been received from the manager of the company in Colorado: I am pleased to be able to report a rather important discovery in the mine, the first-fruits of our patient development work. The lessees in the crosscut north from the Brown drift (at the silver ore tunnel level) have cut into a very good looking vein, carrying over 4 inches (in several streaks) of very high grade ore, samples of which assay as high as 1000 ounces per ton. We do not yet know whether this is the main Brown vein left by mistake when Mr. Cornish's communication to the Brown shaft was driven, or the Coin vein; but it is undoubtedly whole ground for 100 feet over the level, and is altogether untouched beneath.

NO. 7 NORTH-EAST QUEEN.—The following fortnightly report has been received from the mine, dated Charters Towers, March 15: Tuckett and party threw up their block over No. 3 east level, and I have since let them a block over No. 1 level east where they are rising on about 2 inches of stone. Mills and party are still stoping and driving on an average of 8 inches of good quality stone. Balks and party are driving on an average of 10 inches of good quality stone, below No. 2 level west. Balch and party have a good big face of mullocky stone, that I think by the end of the fortnight will turn out into a well-defined reef of good heavy mineral stone. Wherry and party have a small body of stone in Parry's old block, but the value of it I cannot speak of as yet. Stone hauled for the fortnight 12 tons. (Signed) John T. L. Williams.

OOREGUM.—Superintendent's report for the fortnight ending April 10: Taylor's shaft sunk 12 feet, total depth below the 660 feet level 104 feet. Lode 3 feet wide, assay value 3 ounces 5 dwts. 8 grains. We intend driving north to meet the 760 feet level from Wallroth's, and expect the surveyor here within a few days to determine the exact position of level, when it will be commenced together with the 760 feet level south towards southern boundary. The 660 feet level south driven 25 feet, total 181 feet. Lode 1 foot wide, value 1 ounce 6 dwts. 2 grains. No. 1 winze, 660 feet level south, sunk 3 feet 6 inches, total 15 feet. Lode 3 feet 6 inches wide, value 1 ounce 12 dwts. 16 grains. The 560 feet level south driven 19 feet 6 inches, total 448 feet 6 inches. Lode 3 feet wide, value 13 dwts. 2 grains. No. 2 winze, 560 feet level south, sunk 7 feet, total 43 feet. Lode 2 feet wide, value 1 ounce 17 grains. No. 3 winze, 560 feet level south, sunk 8 feet 6 inches, total 13 feet 6 inches. Lode 1 foot 9 inches wide, value 1 ounce 14 dwts. 20 grains. No. 4 winze, 460 feet level south, sunk 8 feet, total 72 feet 6 inches. Lode 1 foot 3 inches wide, value 1 ounce 12 dwts. 16 grains. The level north from back of No. 4 rise, 280 feet level south, driven 7 feet, total 98 feet. Lode 6 inches wide, value 15 dwts. 6 grains. Wallroth's shaft sunk 9 feet 3 inches, total 1017 feet 6 inches. The shaft is being carried down at the proper grade, which leaves the lode still standing in the hanging. The 960 feet level south driven 19 feet 3 inches, total 80 feet. Lode 9 inches wide, assay value 10 dwts. 21 grains. The 960 feet level north is driven 14 feet 3 inches, total 72 feet. The lode is 3 inches wide, value 8 dwts. 17 grains. The 860 feet level south is driven 28 feet 9 inches, total 397 feet. Lode 1 foot 3 inches wide, value 6 dwts. 12 grains. No. 1 winze 860 feet level south sunk 6 feet, total 83 feet 9 inches. Lode 1 foot wide, value 7 dwts. 15 grains. No. 2 winze 860 feet level south sunk 4 feet 9 inches, total 23 feet 6 inches. Lode 1 foot 4 inches wide, value 5 dwts. 10 grains. The 860 feet level north driven 18 feet, total 232 feet 6 inches. Lode 1 foot 4 inches wide, value 4 dwts. 8 grains. No. 1 winze 860 feet level north sunk 4 feet 9 inches, total 48 feet 3 inches. Lode 9 inches wide, value 8 dwts. 17 grains. The 760 feet level south driven 33 feet 9 inches, total 518 feet 3 inches. Lode 2 feet wide, value 1 ounce 17 grains. No. 2 winze 760 feet level south sunk 7 feet, total 29 feet 3 inches Lode 9 inches wide, value 5 dwts. 10 grains. The 760 feet level north driven 13 feet 3 inches, total 300 feet. Lode 3 inches wide, value 12 dwts. No. 2 winze 760 feet level north sunk 5 feet 6 inches, total 20 feet 9 inches. Lode 10 inches wide, value 7 dwts. 15 grains. No. 4 winze 660 feet level south sunk 2 feet 3 inches, total 69 feet 9 inches. Lode 6 inches wide, value 9 dwts. 19 grains. No. 5 winze 660 feet level south sunk 6 feet 6 inches, total 96 feet. Lode 1 foot wide, value 6 dwts. 12 grains. No. 6 winze 660 feet level south sunk 1 foot 9 inches, total 24 feet. Lode 2 feet 6 inches, no sample (water in winze). The 360 feet level north driven 14 feet, total 392 feet 9 inches. Lode still small, no sample. The 280 feet level north driving north from fold driven 13 feet 6 inches, total 186 feet 6 inches. Lode 9 inches wide, value 9 dwts, 19 grains. No. 5 winze 215 feet level north sunk 6 feet 6 inches, total 19 feet. Lode 9 inches wide, value 17 dwts. 10 grains. Low's shaft sunk 6 feet, total 701 feet 7 inches. The 710 feet level south driven 15 feet, total 207 feet 6 inches. Lode 6 inches wide, value 16 dwts. 8 grains. The 610 feet level south driving north on lode from point of intersection driven 15 feet 9 inches, total 27 feet 9 inches. Lode 1 foot 3 inches wide, value 1 ounce 20 grains. No. 1 winze 510 feet level south sunk 1 foot, total 88 feet. Lode 6 inches wide, value 1 ounce 3 dwts. 22 grains communicated with 610 feet level south.—Probyn's shaft. Sunk 6 feet, total 1074 feet 6 inches. The 1050 feet level south driven 11 feet, total 21 feet. Lode 3 inches wide, value 9 dwts. 19 grains. No. 1 winze 1050 feet level north sunk 4 feet 6 inches, total 22 feet 6 inches. Lode 2 foot wide, value 12 dwts. No. 1 winze 950 feet level south sunk 5 feet, total 72 feet 9 inches. Lode 4 inches wide, value 7 dwts, 15 grains.—Stopes for month. Taylor's shaft. Bottom of 560 feet level south stoped 4¾ fathoms. Lode 3 feet wide, value 3 ounces 16 dwts. 5 grains. Bottom of 360 feet level south stoped 59 fathoms. Lode 3 feet 6 inches, value 1 ounce 12 grains. Bottom of 280 feet level south stoped 3½ fathoms. Lode 1 foot 6 inches wide, value 3 ounces 3 dwts. 3 grains. Bottom of level south from back of No. 4 rise 280 feet level south stoped 8½ fathoms. Lode 2 feet wide, value 1 ounce 10 dwts. 11 grains.—Wallroth's shaft. Back of 660 feet level south stoped 33¾ fathoms. Lode 2 feet 6 inches wide, value 1 ounce 18 dwts. 12 grains. Bottom of 660 feet level north stoped 5¼ fathoms. Lode 3 feet 3 inches wide, value 14 dwts. 4 grains. Bottom of 560 feet level south stoped 4½ fathoms. Lode 6 feet 6 inches wide, value 1 ounce 13 dwts. 5 grains. Back of 560 feet level south stoped 23½ fathoms. Lode 3 feet wide, value 1 ounce 7 dwts. 4 grains. Bottom of 560 feet level north stoped 6 fathoms. Lode 1 foot 9 inches, value 1 ounce 7 dwts. 4 grains. Bottom of 460 feet level south stoped 45 fathoms. Lode 2 feet wide, value 17 dwts. 2 grains. Back of 460 feet level south stoped 17¾ fathoms. Lode 3 feet wide, value 15 dwts. 19 grains. Bottom of 460 feet level north stoped 5 fathoms. Lode 1 foot 6 inches wide, value 2 ounces 6 grains. Bottom of 360 feet level south stoped 35 fathoms. Lode 2 feet 6 inches wide, value 1 ounce 14 dwts. 14 grains. Back of 360 feet level south stoped 1 fathom. Lode 1 foot 6 inches wide, value 2 ounces 4 dwts. 15 grains. Bottom of 360 feet level south stoped 1 fathom. Lode 1 foot 6 inches wide, value 2 ounces 4 dwts. 15 grains. Bottom of 280 feet level north stoped 1 fathom. Lode 2 feet 6 inches wide, value 2 ounces 4 dwts. 15 grains. Bottom of 280 feet level south stoped 3¼ fathoms. Lode 1 foot 6 inches wide, value 1 ounce 14 dwts. 7 grains. Bottom of 215 feet level south stoped 4¾ fathoms. Lode 1 foot 3 inches wide, value 19 dwts. 15 grains. Bottom of 215 feet level north stoped 20¼ fathoms. Lode 1 foot wide, value 1 ounce 8 dwts. 12 grains.—Low's shaft. Bottom of 430 feet level south stoped 11½ fathoms. Lode 1 foot 2 inches wide, value 3 ounces 4 dwts. 5 grains. Back of intermediate level north back of 200 feet level south stoped 7½ fathoms. Lode 1 foot 3 inches, value 8 dwts. 17 grains.—Probyn's shaft. Back of 650 feet level south stoped 3 fathoms. Lode 1 foot wide, value 1 ounce 17 grains. Back of 450 feet level south stoped 4 fathoms. Lode 1 foot, value 1 ounce 7 dwts. 18 grains.—No. 2 Trial shaft. Stoping south of shaft at 230 feet, stoped 6½ fathoms. Lode 5 feet wide, assay value 6 dwts. 12 grains. Stoping north of shaft at 230 feet, stoped 4¾ fathoms. Lode 5 feet wide, away value 12 dwts.—Exploratory work: Wallroth's shaft. The crosscut east from 760 feet level south driven 1 foot 9 inches, total 55 feet 6 inches. The crosscut west, 760 feet level south, driven 3 feet 3 inches, total 56 feet. The crosscut east, 360 feet level north, driven 2 feet 6 inches, total 55 feet 6 inches; suspended. The level south from crosscut east from 280 feet level south driven 14 feet 9 inches, total 47 feet. The lode is still disordered, and contains but little quartz, therefore no sample taken.—Munday's lode explorations. The 280 feet level north from crosscut west driven 10 feet, total 29 feet 6 inches. The lode is composed of schist, calcspar, and small stringers of quartz. No sample taken. The crosscut east, 215 feet level north, driven 1 foot 6 inches, total 6 feet 6 inches.—Probyn's shaft. The level north from crosscut east, 450 feet level south, driven 12 feet, total 38 feet. Branch of quartz 3 inches wide, assay value 10 dwts, 20 grains of gold per ton. During the month of March we crushed 4231 tons of quartz, which produced 4507 ounces of gold. In addition to this 4752 tons of tailings were treated, which yielded 1026 ounces of gold, total 5533 ounces of gold.

PAHANG CORPORATION (Sungei Lembing).—March 4: I hereby submit progress report of mining operations for the month of February: Pollock's, No. 1 below adit. The winze A was deepened a further 35 feet, total depth 67 feet. We have had a good sized lode the whole depth from 2 to 5 feet wide with ore of fair quality at intervals. I expect to have the winze deep enough by the end of current month to intersect the drive from No. 2 level. The winze B has been restarted, and should we be favoured with dry weather, I hope to make fair progress with it. The stopes over this level are nearly exhausted; about the end of current month will see them finished.—No. 2 below adit. The drive westward on the course of the lode has been driven a distance of 31 feet from the crosscourse. The country rock is very hard and bad for making quick progress. We have now met with a well-defined wall on one side of the drive, which I think may prove to be the true wall of the lode. It will take about 60 feet more driving to reach the winze A, but we may meet with payable ore before reaching that point.—No. 3 below adit. The drive westward at this level has been advanced a further 26 feet, total length from crosscut 103 feet. I am sorry to say there is no improvement in the quality of the ore coming to hand; the formation between the walls is extremely hard. About 30 feet more driving will reach a point about vertical under the winze A at No. 1 level. Should the lode not have improved on reaching that point, I intend crosscutting southward, as during the past week flat floors have been met with on the footwall side of the lode formation we are following; and there is a good deal of water issuing from these floors, so that the tin-bearing country may prove to be to the southward of our drive at this point. The leading stope has been carried along a further 18 feet, and as the ore carrying the little tin is only a few inches wide, and no signs of improvement, I have decided to cease further stoping, as the country is very hard, and very slow progress is made, and we cannot expect it to improve much upward, as there is no sign of any tin over this point in the No. 2 level.—New plant. Very fair progress is being made with the new winding engine, which I expect to have completed by the end of current month. But it will be some considerable time yet before the boiler is ready, as there has been some difficulty in getting rivetters from Singapore.—Jeram Batang. By referring to my report for the month of October, 1892, you will notice that I mentioned cutting a tin-bearing lode at a distance of about 280 feet from the mouth of the adit level, and that we had met with some very good stones of tin in crossing it. During the past month work was started on it east and west, for the purpose of driving a few feet each way to enable us to get a branch truck-road put down in each drive, so that work could be started at any time in the lode without interrupting the traffic on the tramline to the main lode. A distance of 25 feet was driven east and 9 feet west. Ore of very good quality was met with in the east drive, but not quite so good going west. Work will now be stopped till some future time. This will be known as the No. 1 lode, adit level. The drive east on main lode, adit level, was extended a further 28 feet, total from crosscut 133 feet. Ore of first-class quality has been coming to hand from here during the month. I think the lode is getting a little smaller, as the footwall appears to be showing on the south side. It is about 5 feet wide in the present end. The drive west was driven a further 28 feet, total from crosscut 65 feet. The lode in this drive is 4 feet wide and looks very promising, and ore of fair quality has come to hand at intervals during the month.—No. 1 above adit. The drive east was driven a further 27 feet, total 127 feet from crosscut. The ore from here is not quite so good as the adit east; the best portion may be on the footwall, which is not in sight yet. The drive west was extended a further 30 feet, total from crosscut 345 feet. The lode is about 3 feet wide, and carrying a little tin; it looks very promising in the present end, as this drive is now a little beyond the point where the west winze from No. 2 above will intersect it. Driving further west will now be stopped for a time, and a winze started to go down to the adit drive west.—No. 2 above adit. The east winze was sunk a further 10 feet, total depth 62 feet. At this point the No. 1 east drive was intersected. The winze in the end of west drive was sunk a further 10 feet, total depth 63 feet. This is not quite deep enough to meet the No. 1 drive. I expect it will be through in a few days.—Wm. Straughan.

PAHANG KABANG.—I beg to submit to you my report on the work done at Myah Mine for the month of December. Myah new adit was advanced west on the lode 23 feet, total 221 feet. We have holed through to B winze. The lode is 5 feet wide, and showing every indication that we are getting near to the tin they had in the old adit above. Myah old adit was driven 32 feet, total 344 feet. The lode in this drive is rather puzzling me, as there is over 52 feet of country rock stained with manganese between the two walls, and very little of anything else that I can call lode matter, so I intend to crosscut south to see whether there is anything good on the south side of the lode. No. 1 above was advanced 39 feet, total 189 feet. The lode in this drive is looking as if it has been split, as it is in the drives above, where two drives were put in for some distance parallel, and I think now that this drive is on the north branch of the lode. Unless there is a change for the better soon, I will put the men to drive for the south branch as that is the best one above.—David William Jones.—P.S. The lode in the new adit has greatly improved, as on the 19th inst., I took sample of the lode 4 feet wide, and it has assayed 4½ per cent.

ROBINSON.—The general manager's summary of operations for March, together with statement of expenditure and revenue, states:—Mine. Quartz milled, 2503 tons.—Development. Drives, 501 feet; raises, 396 feet; crosscuts, 299 feet; winzes, 41 feet; total, 1237 feet.—Main incline shaft west, fourth level. Cutting small station, 59 feet. 5th level. Raises, 93 feet. 6th level. Driving west on main reef, 44 feet; driving east on south reef, 1 foot; raises, 70 feet; crosscuts, 21 feet. 7th level. Driving east and west on main reef, 76 feet; driving west on south reef, 21 feet; raises, 25 feet. 8th level. Driving east and west on main reef, 57 feet; driving east and west on south reef, 40 feet; raises, 36 feet. 9th level. Crosscut, 37 feet. 10th level. Crosscut, 16 feet; winze, 8 feet.—Main incline shaft east, 5th level. Driving east on main reef, 16 feet.—6th level. Driving west on main reef, 26 feet; crosscuts, 95 feet.—7th level. Driving east and west on main reef, 43 feet; driving east and west on south reef, 82 feet; raises, 41 feet.—8th level. Driving west on main reef, 2 feet; driving east on south reef, 15 feet; raises, 131 feet.—9th level. Driving east on main reef, 35 feet; crosscuts, 39 feet.—10th level. Driving east on main reef, 43 feet; crosscuts, 32 feet; winze, 33 feet. Total, 1237 feet.—Mill. Stamps at work, 70; net running time, 29½ days; tons crushed, 9503; tons per stamp per diem, 4·6; gold won from above, 8504 ounces 17 dwts.—Chlorination and cyanide works. Gold won from own concentrates (by chlorination), 1225 ounces; bullion from tailings (cyanide process), 2206 ounces 5 dwts. From own ore, 11,936 ounces 2 dwts.; gold from concentrates purchased (by chlorination), 2206 ounces 5 dwts. Total, 14,142 ounces 7 dwts.

NUGGET EXPLORING.—The company has arranged with Messrs. R. J. Rogers and Son, Hobart, to represent it in Tasmania. Arrangements have been completed for the issue in May of the Ceylon Tea Trust, which, *inter alia*, has acquired the Oolopane Estate, in close proximity to the well-known Mariawatteo Estate. The necessary documents for the transfer of the Ringarcoma Tin Mines to the company have arrived in London.

PUNJOM.—Report of the manager for February: Mining, August shaft, 200 feet level. The No. 1 crosscut has connected with the south drive on the course of the north and south reef. Distance driven 10 feet 6 inches. Total length 62 feet. The No. 2 crosscut is still in good-looking country, and letting out water very freely. Distance driven 35 feet. Total length from No. 1 crosscut 203 feet. The south drive on the course of the north and south reef has been driven 10 feet 6 inches on a strong body of ore, but I regret to say this point does not show any signs of improvement. Total length from No. 2 east crosscut 104 feet.—Intermediate (140 feet) level. The No. 1 crosscut has been extended a further distance of 36 feet, and has intersected the leader referred to in my report for January. The ore where passed through, although promising looking, is not payable. Total length of this crosscut from August shaft is 183 feet. The south drive on the course of the reef has been extended 19 feet 6 inches, the ore passed through being of medium quality. This point is now under the winze being sunk below the 110 feet level, and will be discontinued till the connection is made, and better ventilation is secured. The east crosscut t this level has been driven a further distance of 9 feet, and as it did not show anything of value, work there was stopped in the early part of the month. Total length of this crosscut is 69 feet. The drive on Phillips' leader has been extended 31 feet 6 inches on ore of low grade. Total length of drive is 63 feet 6 inches. Stoping on this leader has been carried on on ore slightly better than that obtained in driving. I look for further improvement as the stopes are carried south.—110 feet level. The south-east crosscut at this level has been further extended 19 feet, and is now in dyke country. It has passed through the true course of the north and south reef, and consequently work there has been discontinued for the present. Total length 257 feet 6 inches. The winze on the course of the north and south reef has been sunk 10 feet through rather broken reef matter. The ore, however, is fit for the mill. The crosscut to go out to the Mill Gully reef has been driven 9 feet, but owing to it having reached a rather heavy body of water I have discontinued the work there till it becomes drained. A winze in the bottom of this crosscut has now been commenced to go down on the course of the No. 4 leader.—Upper stopes. These continue to give large quantities of fair grade ore for the mill, but I need not remind you here that our reserves at this point are becoming very small.—Mill Gully tunnel. This point has again received special attention, and fair progress has been made. The south drive on the course of the reef has been extended 24 feet through old workings, and blocks of reef left by the old workers. The ore obtained, although poor, has paid the mill, and this applies to the stopes over this drive. Ore mined and milled from this point is 148 tons. The north drive has been extended 69 feet, and is now in 124 feet from the main tunnel. There is no change to report here. I am offering special inducements for progress so as to get up under the Kladi tunnel as quickly as possible. We have about 220 feet further to go, but I think we shall accomplish this in two months.—Kladi tunnel. Two winzes to go down on the course of the ore passed through when driving this tunnel some months ago have been commenced, and, I am pleased to say the No. 1 winze shows very encouraging prospects. The reef here, although only a few inches wide in places where first seen, has now opened out to full 2 feet, and is of very fair quality indeed. After our disappointment at Mill Gully, I do not care, however, to say very much just yet. We are now down 35 feet below the floor of the tunnel, or 90 feet from surface, and have carried good payable ore almost the entire depth of the winze, and this point never looked better than it does to-day. The No. 2 winze will junction with the No. 1 at about the level of the Mill Gully tunnel. The No. 1 North Kladi tunnel has been driven a further distance of 87 feet 6 inches, making its entire length 185 feet from its mouth; and, as it does not show any signs of the reef, I have discontinued work there till we see further development at the Mill Gully and Kladi tunnel. I may remark here that many small drives and winzes have been made in carrying on the work, which can hardly find a place in a report. The total ground driven and sunk for the month is 700 feet 9 inches, and the number of tons mined is 860, of which about 700 tons were got by stoping in the upper stopes, 140 feet level, and Mill Gully tunnel.—Milling. This was carried on during 28 days, or, allowing for lost time consequent on bad shoes and repairs, 24 days with full battery, crushing 1000 tons of ore from the mine (no headings have been crushed this month) for 457 ounces 7 dwts. of melted gold.—Cyanide works. The erection of these is being pushed on with all possible speed. Already four of the vats are put together and in position, and another month will see this work well advanced. The water wheel is in position, and will be fit for duty by the time the other portions of the work are completed.—General. All work coming under this head has had the usual attention. The Manick-road is being extended some hundreds of yards to enable us to get at new ground for firewood and other timber during the dry weather, and before the next monsoon sets in.—Labour. This is without change. Health is fairly good.

TRANSVAAL GOLD EXPLORATION AND LAND.—Summary of mining operations for month of February. Beta. Drivage 269 feet, depoit averaged 7½ inches thick, ore extracted 918 tons, assay value 1 ounce 7 dwts. per ton.—Theta. Drivage 237 feet, deposit averaged 24 inches thick, ore extracted 291 tons, assay value 1 ounce 19 dwts. per ton.—Iota. Drivage 160 feet, deposit averaged 16 inches thick, ore extracted 97 tons, assay value 9 dwts. per ton.—No. From deposit averaging 39 inches thick, 335 tons were extracted, with an average assay value of 1 ounce 8 dwts. per ton.—Chi. Drivage 421 feet, deposit averaged 17 inches thick, ore extracted 194 tons, average assay value 1 ounce 9 dwts. per ton.—Prospecting. From Phi 60 tons were obtained, with an assay value of 15 dwts. per ton. Total ore mined 1895 tons, average assay value 1 ounce 8 dwts. per ton.

UNITED MATABELE CLAIMS DEVELOPMENT.—A report has been received from Mr. Jefferson Clark, this company's consulting engineer, stating that the Queenslander Mine is opening up very well, and that he intends to develop this mine immediately, as the results are so satisfactory. It will be remembered that the Bechuanaland Exploration Company has a large interest in this undertaking. Mr. Jefferson Clark also states that it is his impression that the best part of the Cotopaxi reef lies in this company's ground. This property adjoins the rich shoot which the Gold Fields of Mashonaland (Limited) are now engaged in developing, which has greatly increased the average value of the ore at the Cotopaxi mine.

SAN SALVADOR SPANISH IRON ORE COMPANY (LIMITED).—The dividend warrants for the dividend declared by this company for last year's working have been forwarded to the shareholders.

WANTED.

*** Prepaid Advertisements are inserted in this column at the rate of 8d. per line with a minimum charge of 4s.**

ASSAYER and CHEMIST seeks RE-APPOINTMENT. Four years with London Assayer to Bank of England, and five years with Gold Mining Company, Chili. Has practical experience of Treatment of Gold Ores, Dry Grinding, Amalgamation, Concentration. Highest testimonials. Speaks Spanish.
"C. W. L.," Oaklands, Dewsbury.

A.R.S.M. requires POSITION with MINING or METALLURGICAL FIRM. Two years' business experience.
Address, "P.," care of MINING JOURNAL Office, 18, Finch Lane London, E.C.

TO METALLURGISTS, ENGINEERS, &c.

WANTED, COMPETENT ENGINEER to supervise ERECTION and MANAGE LARGE STAMP BATTERY at Coolgardie. Must be thoroughly acquainted with Cyanide Process and Modern Ore Treating Appliances. Apply, by letter only, enclosing copies of testimonials and state remuneration required. Applications to be sent in by 12th May, and addressed to C. E. HOGG, Consulting Engineer, 1, St. Helen's Place Bishopsgate Street, London, E.C.

GOLD IN BRITISH GUIANA.

THE UNDERSIGNED are prepared to act as AGENTS for parties wishing to PROSPECT for GOLD in BRITISH GUIANA, or who have bought and intend working properties in that Colony.

They have had EXPERIENCE with the GOLD INDUSTRY of the COLONY extending over TEN YEARS, and the PLACERS now under their control, and principally owned by them, have produced over

60,000 OUNCES OF GOLD

in the last five years.

GARNETT and CO., Georgetown, Demerara.

For reference, apply to
SECRETARY, Royal Mail Steam Packet Co., 11, Moorgate Street, London.
W. GOSSAGE and SONS (LIMITED), Widnes., Lanc.
A. GARNETT and Co., 30, North John Street, Liverpool; or
BRITISH GUIANA BANK (see advertisment, first page this paper), Georgetown, Demerara.

SALE BY AUCTION.

** Advertisements are inserted in this column at the rate of 8d. per line with a minimum charge of 4s.

TUESDAY, MAY 14th, 1895.

SPLENDID PUMPING ENGINES, WINDING ENGINES, AND MINING MACHINERY FOR SALE BY AUCTION.

W. BAILEY will OFFER for SALE by AUCTION, on TUESDAY, MAY 14th, 1895, at VIOLET SEATON and WHEAL JOHNNY MINES, in the Parish of Camborne, the whole of the

PLANT AND MACHINERY

THEREON, COMPRISING:

70 inch pumping engine.
66 inch pumping engine.
18 inch winding engine and crusher.
16 inch do. do.
12 inch do. do.
2 air compressor engines.
8 powerful boilers, nearly new, 12 and 10 tons.

A very large quantity of materials, tools, stores, timber, shedding, &c. The whole will be sold absolutely without reserve. The Auctioneer would particularly call the attention of engineers and dealers to the above sale, most of the machinery being in first-class condition, and nearly new. Refreshments at 11.30. Sale to commence at 12.30 prompt. Conveyances will meet the 10.5 down and 10.39 up trains at Camborne Station.

To view, apply to Captain HAMMER, on the mine.
Dated April 19th, 1895.

FOR SALE.

*** Prepaid Advertisements are inserted in this column at the rate of 8d. per line with a minimum charge of 4s.**

WINDING ENGINES.

SPLENDID PAIR, second-hand; 20-inch CYLINDERS, Cornish valves; complete as just stopped work. A bargain for quick sale.
RATCLIFFE and SONS, Hawarden Iron Works, Chester.

TO CAPITALISTS AND MINE BROKERS.

SLATE QUARRY on SALE, North Wales. Government Lease. Two Large Veins of splendid quality. Most favourable ground for working, and adjoining a Railway Siding.
Address, "O. R.," MINING JOURNAL Office, 18, Finch Lane, London, E.C.

SLATE and MACADAM STONE QUARRY, in North Wales, for SALE, with IMMEDIATE POSSESSION. The Quarry is supplied with Machinery and Water Power, and is connected by a short incline with one of the leading railways.
Particulars of T. A. WYNNE EDWARDS, Engineer, Denbigh.

COMPANIES AND LEGAL ANNOUNCEMENTS.

*** Advertisements are inserted in this column at the rate of 9d. per line with a minimum charge of 7s. 6d.**

RIO TINTO COMPANY (LIMITED).

DIVIDEND ON SHARES TO BEARER.

HOLDERS OF SHARE WARRANTS TO BEARER are informed that they will receive PAYMENT of the DIVIDEND declared at the GENERAL MEETING held on the 19th ult., at the rate of Four Shillings per share, free of Income Tax, on and after THURSDAY, the 16th May, 1895, on presentation of Coupon No. 33, either at the Company's office in London, or at the Société Générale, Rue de Provence, 54, Paris; or at the Deutsche National-bank in Bremen.

Coupons for payment in London must be left four clear days previously for examination, and may be deposited at once.

By order,
GEO. N. THOMSON, Secretary.

Offices of the Company:
30, St. Swithin's Lane, 1st. May, 1895.

MASON AND BARRY (LIMITED).
(SAN DOMINGOS MINE, PORTUGAL).

NOTICE IS HEREBY GIVEN, that the THIRD ANNUAL GENERAL MEETING of the Members of Mason and Barry (Limited) will be held at the Cannon Street Hotel, London, E.C., on MONDAY, the 13th May, at Two o'clock precisely, for the purpose of receiving the Directors' Report for the year 1894; approving the General Balance-sheet at 31st December, 1894; declaring a Dividend for the year 1894; the Re-election or Appointment of directors, and the Appointment of Auditors.

The holders of "Share Warrants to Bearer" will be furnished with a certificate admitting them to the meeting upon their depositing share warrants representing not less than 10 shares, at the office of the company, three days before the meeting, together with a notice in writing stating their names and addresses.

The Transfer Books of the Company will be closed from Saturday, the 27th April, to Saturday, the 11th May, both days inclusive.

By Order of the Board,
JOHN G. BARRY, F.C.A., Secretary.
87, Cannon Street, London, E.C., 27th April, 1895.

BUSINESS CARDS.

AERIAL ROPEWAYS.
"OTTO" SYSTEM.
R. E. COMMANS (late Commans and Co.), 6, Queen Street Place, London, E.C.

ASBESTOS.
THE UNITED ASBESTOS COMPANY (Limited), Dock House, Billiter Street, London, E.C. Asbestos Goods of the highest quality.

COAL WASHING MACHINERY.
TELEGRAMS: "SHEPPARD, BRIDGEND."
COAL WASHING MACHINERY
Specially adapted for Exportation Conveyors, Picking Bands, Screens, Dead-Weight Crushers, and Rolls.
SHEPPARD & SONS (Limited), Engineers, Coity Road, Bridgend, South Wales.

CONCENTRATORS.
THE CLARKSON-STANFIELD CONCENTRATOR (Limited). New system for the treatment of gold, silver, copper, lead, and other ores. Address, 6, Colonial Avenue, Minories, London, E.

EXPLOSIVES FOR MINING.
NOBEL'S EXPLOSIVES COMPANY (Limited), Glasgow. Manufacturers of Gelignite, Gelatine-Dynamite, Dynamite, Detonators, Electric Detonator Fuses, &c., &c.

FUSE MANUFACTURERS.
WILLIAM BENNETT, SONS, & CO., Roskear Fuse Works, Camborne, Cornwall. Manufacturers of the celebrated "Crown Brand" Blasting Fuse for Mining Purposes.

IRON BUILDINGS.
ISAAC DIXON & CO., Liverpool, Iron roofs, Houses, and mining machinery buildings of every description.

WOOD PRESERVATIVE.
Reg. "JODELITE." Reg.
Not applied under pressure. The Best and Cheapest Preventive of Decay, Dry Rot, and the attack of White Ants in Timber. Manufactured by JOSEPH DEE, 5, Cross Street, Manchester.

METAL PERFORATORS, &c.
J. & F. POOL,
METAL PERFORATORS & WIRE WEAVERS, COPPERHOUSE, HAYLE, CORNWALL.
SPECIALITIES:—All descriptions of Perforated Metal Plates, Stamps' Battery-Screens, Wire Gauze and Sieves for Foreign and Home Mining, and other Purposes. Export orders carefully and promptly executed.

MINING INSTRUMENTS.
JOHN DAVIS & SON, All Saint's Works, Derby; and 118, Newgate Street, London. Mathematical instruments and miner's safety lamps.

MINING MACHINERY.
FRASER & CHALMERS (Limited), 43, Threadneedle Street, London, E.C. Mining machinery of the most approved design.

THOMAS LARMUTH and CO., Salford, Manchester, Manufacturers of Patent "Hirnant" Plant, Rock Drills, Air Compressors, Sinking Carriages, &c.
Agents for South Africa—Messrs. REUNERT and LENZ, Johannesburg.

ROBEY & CO. (LIMITED), Manufacturers of Steam Engines, Mining Machinery, &c. Makers of the Robey Patent Automatic Expansion Gear.—Globe Works, Lincoln.

ORE DRESSING MACHINERY.
THE LÜHRIG COAL AND ORE DRESSING APPLIANCES (LIMITED),
32, VICTORIA STREET, LONDON, S.W.
COMPLETE DRESSING PLANTS for Gold, Silver, Lead, and Copper Ores, &c, designed and erected.
LÜHRIG SINGLE AND COMPOUND VANNERS for Low Grade Ores and Tailings.
IMPROVED BREAKERS, ROLLS, JIGS, AND SEPARATING DRUMS.
Tests made with Samples at London Works Free of Charge.

ROCK DRILLS.
RICHARD SCHRAM & CO., 17a, Great George Street, Westminster, S.W.

STONEBREAKING MACHINERY.
W. H. BAXTER, Engineer, Leeds. Stone breaking and ore crushing machinery. All highest awards received for 12 years' Guaranteed for economy in power, efficiency and durability over all others. Catalogues free.

GATES IRON WORKS, 73A, Queen Victoria Street, E.C. The Gates Rock and Ore Breaker effects a great saving in power.

TUBE MAKER.
GEO. J. CHATTERTON, manufacturer of lead pipe, block tin pipe, and tinned composition gas tube, Caledonian Road, London, N

TURBINES.
G. GILKES and CO., Kendal Makers of The Vortex Turbine.

CORNISH POST AND MINING NEWS,
A HIGH CLASS UNIONIST NEWSPAPER.
Specially devoted to Cornish Mining, upon which it contains the fullest and most reliable information published. It is the only eight-paged newspaper printed in the Mining Division of Cornwall,
ISSUED EVERY FRIDAY MORNING,
PRICE ONE PENNY.
The Cornish Post and Mining News Co. (Limited)
East Charles Street, Camborne, Cornwal

SOUTH AUSTRALIAN LETTER.

(FROM OUR OWN CORRESPONDENT.)

ADELAIDE, MARCH 26.

THOUGH there is nothing extraordinary to report, mining is, on the whole, making steady progress in our colony. Even the Wallaroo and Moonta Mining and Smelting Company (Limited), notwithstanding the low price of copper, have made a profit of £9384 9s. 6d. for the year ended December 31, 1894, and are able to declare a dividend of 1s. per share. Although the price of copper has been nearly £4 per ton lower than in 1893, economy in every department has reduced the cost of production considerably, bringing it down to £41 7s. 3d. per ton of fine copper. The realisable assets of the company on December 31 are put down as £124,632 0s. 4d., and the liabilities at £58,922 8s. 2d. The ore raised at the Moonta Mines during 1894 was 13,989 tons (of 21 cwts) producing 2931 tons of fine copper, being 21 per cent. of the ore, which shows an increase of 2 per cent. on the average produce of the previous year. Wallaroo Mines yielded 12,457 tons (21 cwts.) of ore, averaging 14¼ per cent. of fine copper, being an increase of ⅞ per cent. on the average produce of 1893. It is estimated to produce these results that 200,000 tons of crude ore and veinstone were treated last year at the two mines. A few additional particulars of the works, &c., may be interesting. The deepest shaft on the Wallaroo Mines is Taylor's, which is 1434 feet, and the lodes generally show an improvement in depth, as compared with the shallower workings. The deepest shaft on the Moonta Mines is Taylor's, which is a little over 2040 feet, but the lodes at the deepest levels at Moonta are less remunerative than they were nearer the surface. All the best appliances are in use through these mines, so as to ensure the work being carried on in the most economical manner possible. The total number of hands employed is 1908, including 657 miners, 121 underground labourers, 124 smelters, surface hands 352, youths and boys 363, mechanics 183. By the way, the workshops at the Moonta Mines are equal to any in Australia. The smelting works and electrolytic refinery have acquired a high reputation throughout Australasia, under the skilful scientific management of Mr. T. C. Cloud, F.G.S., and auriferous ores are sent to the Wallaroo Works for treatment from all the neighbouring colonies.

Our principal gold mines are progressing satisfactorily, the most important auriferous districts being what is called the north-eastern district, embracing Wankaringa, Wadnaminga, Taltabooka, Nillinghoo, New Luxemberg, &c.; the Woodside district, comprising the Bird-in-Hand, Ridge, Eureka, and other mines; and the Blumberg district, including the St. Patrick's Day, the Black Snake, Scott's, Wagner's, and others. Several of these mines are "languishing for want of capital to work them," as a local reporter expressed it; and it is strange that investors should prefer the risks attending the working of doubtful mines in West Australia, when they could get certain returns from others that they could see for themselves every week. I am free to admit, however, that West Australia is opening up more payable mines almost every week; but, nevertheless, caution is necessary, and it is always safest to deduct 50 per cent. for gas in the descriptions of their richest mines. Mr. T. E. Elder, of St. Helen's-place, Bishopsgate-street, London, lately spent about three months in West Australia, and I believe he secured some really good properties, which his friends at home will soon have the opportunity of investing in. In dealing wfth a man of Mr. Elder's character and position, they may feel sure that he will offer nothing but what is genuine. He has also secured some very good gold mines in the old mining district of Bendigo in Victoria, which I inspected for him, and can recommend, as well as some highly-promising properties in this colony, which only want a moderate amount of capital to bring to the paying point.

The Virginia and Milo Mines at Wadnaminga are improving in depth, and a claim that had been abandoned as not likely to pay—a short distance from the above, and known as the North and South Reef—has been reopened, and is proving very payable. The Lux Mine (formerly the Mingary), adjoining the Queen Bee at New Luxemberg, is opening up satisfactorily with 15 dwts. of gold to the ton of veinstone, which will pay well, as the Inspector of Mines considers 8 dwts. would pay. A battery of 15 head of stamps is kept constantly at work. The Queen Bee Mine also is looking very well and has a good future before it, but wants capital to provide machinery.

ONLY GOLD MEDAL FOR ALLOYS, INVENTIONS EXHIBITION.

"PHOSPHOR-BRONZE." (Cog Wheel Brand.)

The Best Alloys for all Wearing parts of Machinery, Bearings, &c.

BEWARE OF ALL IMITATIONS, & SPECIFY THE COMPANY'S MAKE.

BULL'S METAL, Ingots, Forgings, Castings, Stampings, Rods and Sheet. } Specially adapt for Mining Work.

The Phosphor Bronze Company, Ltd.

87, SUMNER STREET, SOUTHWARK, LONDON, S.E.

ESTABLISHED 1851.

BIRKBECK BANK

SOUTHAMPTON BUILDINGS, CHANCERY LANE, LONDON.

TWO-AND-A-HALF per CENT. INTEREST allowed on DEPOSITS repayable on Demand.

TWO per CENT. on CURRENT ACCOUNTS on the minimum monthly balances, when not drawn below £100.

SAVINGS DEPARTMENT.

For the encouragement of Thrift, the Bank receives small sums on Deposit and allows Interest monthly on each completed £1

The Birkbeck Almanack, with full particulars, post free.

FRANCIS RAVENSCROFT, Manager.

THE CHEQUE BANK (LIMITED).

ESTABLISHED 1873.

CAPITAL £500,000

Trustee: The Most Hon. the Marquis of Tweeddale.

BANKERS—THE BANK OF ENGLAND.

CURRENT ACCOUNTS opened free of all charges. No balance needed.
DEPOSITS received at interest.
STOCKS and SHARES bought and sold.
For full particulars apply to the Manager,
THE CHEQUE BANK,
4, Waterloo Place, London, S.W.
City Address; 93, Bishopsgate Within, E.C.

PUBLICATIONS.

. Prepaid Advertisements are inserted in this column at the rate of 8d. per line, with a minimum charge of 4s.

A HAND-BOOK of GOLD MILLING. By HENRY LOUIS, A.R.S.M., F.G.S., &c.

"It is a valuable companion, and should be found on the shelves, not only of the man in charge of the mill, but also of the student and mining engineer."—*The Mining Journal.*

"We have no hesitation in cordially commending Mr. Louis's treatise as an all-round excellent work on gold milling and gold milling machinery."—*Mechanical World.*

"The author shows thorough familiarity with his subject, and expresses himself clearly and concisely in not too technical language."—*Nation.*

Crown 8vo., PRICE 10s. net.

THE GOLDEN QUARTZ REEFS of AUSTRALIA. By WILLIAM NICHOLAS, F.G.S., with Illustrations. A series of Articles especially relating to the Bendigo Gold Field, Victoria.

PRICE 2s., Post Free.

A NEW GUIDE TO THE IRON TRADE, OR MILL MANAGERS' AND STOCK TAKERS' ASSISTANT. By JAMES ROSE, of Batman's Hill Ironworks. Second Edition. Comprising a Series of New and Comprehensive Tables, practically arranged to show at one view the Weight of Iron required to produce Boiler Plates, Sheet Iron, and Flat, Square, and Round Bars, as well as Hoop or Strip Iron of any dimensions, to which is added a variety of Tables for the convenience of Merchants, including a Russian table.

"The Tables are plainly laid down, and the information desired can be instantaneously obtained."—*The Mining Journal.*

"900 copies have been ordered in Wigan alone, and this is but a tithe of those to whom the book should commend itself."—*Wigan Examiner.*

"The work is replete on the subject of underground management."—M. BANEK.

PRICE 8s. 6d.

THE COLLIERY READY-RECKONER and WAGES CALCULATOR. By JAMES IRELAND.

"Will be the means of preventing many disputes between pay clerks and colliers."—*The Mining Journal.*

PRICE 1s. 6d. Post Free.

TACKNOTE: A FORM OF LICENCE TO EXPLORE AND SEARCH FOR MINES, MINERALS, &c. Price 1s., post free.

NOTES ON THE PHILIPPINE ISLANDS: A PAMPHLET REPRINT. By FRANK KARUTH, F.R.G.S. Price 6d.

HISTORY OF THE HOLMBUSH, REDMOOR, and KELLY BRAY MINES; with Several Sections of the Workings. By W. F. WILKINSON.

PRICE 1s.

THE LAW OF MERCHANDISE MARKS.

BY FRANK SAFFORD,

Of the Middle Temple, Barrister-at-Law, and a Member of the London Chamber of Commerce.

PRICE 7s. 6d.

The Law Times says:—"This work will be found thorough and practical."

The Law Journal says:—"We have examined it with some care, and have no hesitation in recommending it to the public."

LONDON:

"THE MINING JOURNAL,"

18, FINCH LANE, E.C., and 3, DORSET BUILDINGS, SALISBURY SQUARE, E.C.

EFFINGHAM WILSON'S PUBLICATIONS.

Duncan on "Investment and Speculation."

SECOND EDITION.

Price 2s. 6d.

"It explains the principles on which a capitalist can obtain the highest return for his money"—*Daily News.*

EFFINGHAM WILSON, London, Royal Exchange; and of all Booksellers.

NOW READY. PRICE, 2s. 6d.

HOW TO INVEST IN MINES:

A Review of the Mine; the Company and the Market; also a Glossary of Mining Terms.

By E. R. GABBOTT.

LONDON: EFFINGHAM WILSON, ROYAL EXCHANGE, E.C.

PRICE 1s.

The MINER'S HANDBOOK & INVESTOR'S GUIDE TO WESTERN AUSTRALIA.

MAPS AND ILLUSTRATIONS. By FRANCIS HART.

LONDON: EFFINGHAM WILSON, ROYAL EXCHANGE.

NOW READY.

THE MINING MANUAL FOR 1895.

By WALTER R. SKINNER.

The "MINING MANUAL" for 1895 deals with 1486 Companies, of which 459 are South African, and 116 are West Australian.

South Africa, of March 9, says:—"Our old friend the 'Mining Manual' comes before us once more, brighter and bulkier than ever. Everybody dealing in the mining market should have a copy. It will be seen, therefore, that the book should be circulated by hundreds of thousands. For ourselves, we honestly say we find the work indispensable in our reference library. The immense amount of information given has been carefully revised and brought down to date. This involves enormous labour, but it has been well and duly performed. We read in the preface that every statement in the book has been submitted to the notice of the company therein concerned, so that the figures and details for all practical purposes bear an official stamp that guarantees the trustworthy character of the book. We cordially compliment Mr. Walter R. Skinner in getting his big and useful work once more to press. All South African enterprises are treated under a special department, the whole contents of the book being admirably and conveniently arranged and indexed.

SEVENTH YEAR OF PUBLICATION.

800 pages. Price 10s. 6d., post free.

LONDON:

26, NICHOLAS LANE, LOMBARD STREET, E.C.

JUST PUBLISHED, CROWN 8VO., 3s. 6D. CLOTH; OR BOUND IN LEATHER FOR THE POCKET, 4s. 6D. (POST FREE.)

THE PROSPECTOR'S HANDBOOK:

A Guide for the Prospector and Traveller in Search of Metal-Bearing or other Valuable Minerals

By J. W. ANDERSON, M.A., F.R.G.S.,

SIXTH EDITION, thoroughly Revised and Much Enlarged.

"In this valuable book the author furnishes all the information necessary for the formation of right conclusions."—*European Mail.*

"The book supplies a much-felt want; it is the best of its kind."—*The Engineer.*

London: CROSBY LOCKWOOD & SON, 7, Stationers' Hall Court, E.C.

THE AUSTRALIAN MINING STANDARD

IS THE

ONLY RECORD OF MINING, FINANCIAL, and ENGINEERING PROGRESS IN THE SOUTHERN HEMISPHERE.

PUBLISHED WEEKLY. ILLUSTRATED.

Subscription, 30s. per annum (payable in advance).

Dr. E. D. PETERS, Jun. says:—"*The Mining Standard* is the best Mining Journal in the World, save one."

THE AUSTRALIAN MINING STANDARD COMPANY, LIMITED, *Printers and Publishers*, SYDNEY AND MELBOURNE.

THE ADELAIDE OBSERVER.

Mining men and others in all parts of the world, who wish to secure the most complete budget of Australian news, and particularly of Mining Intelligence, will do well to have THE ADELAIDE OBSERVER regularly posted to them.

Special attention is given to Mining operations in Western Australia as well as in all other parts of Australasia.

THE ADELAIDE OBSERVER, Price Sixpence. Posted abroad, 7s. 6d. per quarter, or £1 10s. per annum.

HEAD OFFICE—GRENFELL STREET, ADELAIDE, SOUTH AUSTRALIA. LONDON OFFICE—80, FLEET STREET.

THE OBSERVER is a splendid medium for Advertisements of Mining Machinery and requisites.

Advertisements received by all the principal London Agents or at the London address, given above.

THE GLASGOW HERALD

(ESTABLISHED 1782)

IS THE

LARGEST & LEADING ADVERTISING MEDIUM OUT OF LONDON.

It is next to *The Times* and *The Daily Telegraph*, each of which it exceeds in extent of Advertising during several months of the year. It is unrivalled among Daily Papers for the completeness of its Reports of the Mining and Metal Markets, besides Commercial and General News for all classes of the community.

HEAD OFFICES: 65-69, BUCHANAN STREET, GLASGOW

LONDON OFFICES: 65 FLEET STREET.

THE WEST BRITON AND CORNWALL ADVERTISER.

The best Family Newspaper for Cornwall and the West of England generally.

MONDAY AFTERNOON, 4 Pages, One Halfpenny.
THURSDAY AFTERNOON, Pages, 56 Columns, One Penny.

The Largest and Most Influential Journal of Cornwall.
The Best Advertising Medium in the West of England.
The Largest Circulation of any Cornish Newspaper.

The "WEST BRITON" contains more reliable information respecting Cornish Mines than any other Newspaper

HEARD and SONS, Publishers, Truro.

TO LET.

. Prepaid Advertisements are inserted in this column at the rate of 8d. per line with a minimum charge of 4s.

COLLIERY TO LET, IN MONMOUTHSHIRE, GAS AND STEAM COALS, 12 MILES FROM NEWPORT.

TOTAL MINERAL AREA of principal seams unworked 1100 acres. PRESENT CAPACITY 500 tons per day, could be increased. LEASE FOR 17½ YEARS with probability of extension. ROYALTIES 7½d. per ton. Large and small coal. RAILWAY COMMUNICATIONS in every direction.

For further particulars apply to Messrs. COLBORNE, WARD, AND COLBORNE, Solicitors, Victoria Chambers, Newport, Mon.

SHIPPING.

UNION LINE.

FOR SOUTH AFRICAN GOLD FIELDS.—WEEKLY SERVICE.—CAPE OF GOOD HOPE, NATAL, and EAST AFRICAN ROYAL MAIL STEAMERS.—The UNION STEAMSHIP COMPANY'S ROYAL MAIL and INTERMEDIATE STEAMERS will Sail as follows for SOUTH and EAST AFRICA, calling at MADEIRA, and TENERIFE.

Steamers.	Antwerp.	Rotterdam.	Hamburg.	Southampton.
†Mexican	— —	—	—	May 11
*Guelph (twin s'w)	— —	May 7	May 11	May 18
†Scot (twin s'w)	— —	—	—	May 25
*Arab	May 21	—	May 25	June 1

† Calling at Madeira. * Via Tenerife.

Free railway tickets from London and Plymouth to Southampton.
Cheap Tickets are issued for Passengers' Friends.
The Union Line Express is despatched from Waterloo Station (Main Line Platform) every Saturday.

RETURN TICKETS ISSUED.

Apply to the UNION STEAMSHIP COMPANY (Limited), Canute Road, Southampton; 14, Cockspur Street, London, S.W.; and South African House, 94 to 96, Bishopsgate Street Within, London, E.C.

CASTLE LINE.—CAPE & NATAL MAILS.

WEEKLY SERVICE FOR THE GOLD FIELDS OF SOUTH AFRICA.—The CASTLE COMPANY'S STEAMERS leave LONDON (East India Dock Basin, Blackwall) every FRIDAY, and sail from SOUTHAMPTON every SATURDAY.

Steamers.	London.	Southampton.
Garth Castle (via Canaries)	May 10	May 11
Hawarden Castle (via Madeira) ...	May 17	May 18
†Warwick Castle (via Canaries and St. Helena)...	May 24	May 25
Grantully Castle (via Madeira)... ...	May 31	June 1

† For Madagascar and Mauritius.

Return tickets to all Ports.

Free Tickets by Castle Express from Waterloo to Southampton.

Apply to DONALD CURRIE and Co., 3, Fenchurch Street, London, E.C.

West End Agency, THOS. COOK AND SON, 13, Cockspur Street.

THE UNITED ASBESTOS CO. (Limited),

DOCK HOUSE, BILLITER STREET, LONDON, E.C.

PIONEERS of the ASBESTOS Trade. The ONLY COMPANY in the WORLD owning and working Asbestos Mines both in ITALY and CANADA. All goods are made at our Works, near London, and are of the best possible description.

SPECIFY "SALAMANDER" BRAND.

Depots: NEWCASTLE-ON-TYNE, Quay Side; MANCHESTER, 34, Deansgate LIVERPOOL, 33, James Street; GLASGOW, 54, Robertson Street CARDIFF, 135, Bute Street; BRISTOL Provident Buildings, Clare Street ST. PETERSBURG, Gostinoe Dvor, (interior) No. 51.

THE "DAW" ROCK DRILL.

Highest Award, International Exhibition of Mining and Metallurgy, London, 1890.

Highest Award and Medal, World's Fair, Chicago.

STEAM and AIR HOSE.

PATENT QUARRY BARS AND TRIPODS.

Improved Tunnel Columns.

AIR COMPRESSING MACHINERY.

HAULING AND WINDING ENGINES.

On view at the Offices, where Catalogues, Estimates, and all Particulars can be obtained on Application.

A. & Z. DAW, Patentees and Sole Manufacturers, 11, QUEEN VICTORIA ST., LONDON, E.C.

Registered Telegraphic Address: "GULDNES, LONDON." A.B.C. Code. Fourth Edition.

Representatives in South Africa: Messrs. BROWN and McKENZIE, Johannesburg.

Representative in Australasia: Mr. BENJ. K. MORTON, 97, Queen Street, Melbourne; 17, Post Office Chambers, Sydney.

FRANCIS & JENKINS,

GREENFIELD WORKS, LLANELLY, SOUTH WALES.

Manufacturers of Steel-pointed Spades and Shovels, Draining and Grafting Tools, &c. Also Manufacturers of

COPPER WORKS LADLES,

To which special attention is given. Rabble Heads, Paddles, and every description of Light Hammered Work.

The

LANCASHIRE PATENT BELTING & HOSE COMPANY.

(MANUFACTURERS).

Mining Specialties:—

"LANCASHIRE" Patent Belts
(Waterproof. Heatproof. Rotproof. The Original and Genuine Hair Belting).

WIDE "CARRIER" Belts.
(For Collieries, &c. In Hair, Hemp, or Cotton. Any required thickness).

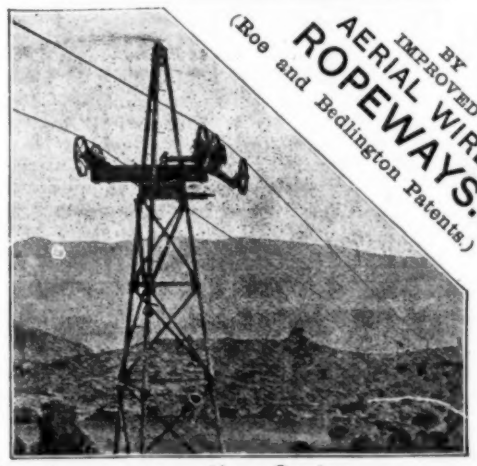
HOSE PIPING—Suction and Delivery.
(Vulcanized Rubber and Canvas, or Seamless-woven Flax).

All other kinds of Belting, Hose, and Accessories for Collieries, &c., &c.

Send for complete Illustrated Catalogue to

The Mills, Tortworth Street, Manchester.

CHEAP TRANSPORT.



Advantages over other Systems:—

Economy in Cost and Working, Simplicity of Construction with High-Class Material, Long Spans and Steel Gradients Overcome, Reduced Wear of Cables and Few Supports.

Estimates, Pamphlets, & full Particulars on Application to the PROPRIETORS OF THE PATENTS

ROPEWAYS SYNDICATE, Limited.
150, Leadenhall Street, London, E.C.
Telegrams: "ROPEWAYS, LONDON."

EL MINERO MEXICANO.

The Mining and Industrial Journal of Mexico.

ESTABLISHED 1873.

Published in the City of Mexico every THURSDAY in the Spanish Language.

Taken by Mine Owners, Capitalists, Manufacturers, Merchants, the richest and most liberal people, all over Mexico.

THE BEST ADVERTISING MEDIUM.

MEXICAN PATENT & TRADE MARK AGENCY,

A, Independencia No. 1, City of Mexico.

RICHARD E. CHISM, M.E., Editor and Proprietor.

MACARTHUR-FORREST PROCESS.

TO MINE OWNERS AND OTHERS

Having REFRACTORY GOLD ORES hitherto untreatable at a profit, the MACARTHUR-FORREST (PATENT) PROCESS OF GOLD EXTRACTION offers a solution of the difficulty.

The chief features of this Process are:—

SIMPLICITY, ECONOMY IN WORKING, and SMALL COST of PLANT.

PROPRIETORS:—

The Cassel Gold Extracting Co. (Ltd.)

Head Office—108a, Hope Street, Glasgow.
London Office—23, College Hill, Cannon Street, E.C.
Africa—The African Gold Recovery Co, (Ltd)., Johannesburg.
Australia—The Australian Gold Recovery Co. (Ltd.), 8, Post Office Chambers, Sydney, N.S.W., Charters Towers, Queensland, and Mr. Geo. S. Fowler, J.P., Adelaide.
United States—The Gold and Silver Extraction Co. of America (Ltd.), Denver, Colo.
Mexico—The Mexican Gold and Silver Recovery Co. (Ltd.). 2a, Calle de Providencia, No. 7, Mexico City, Mexico.
Chili—Mr. Wm. Jones, Calle Almendro, Valparaiso.
New Zealand—The Cassel Gold Extracting Co. (Ltd.), 205, Victoria Arcade, Auckland.
Canada—Mr. W. Pellew Harvey, F.C.S., 717 and 719, Pender Street, Vancouver City, British Columbia.

The CASSEL GOLD EXTRACTING Co. (Ltd.) are manufacturers of CYANIDE, suitable for the MacArthur-Forrest Process.

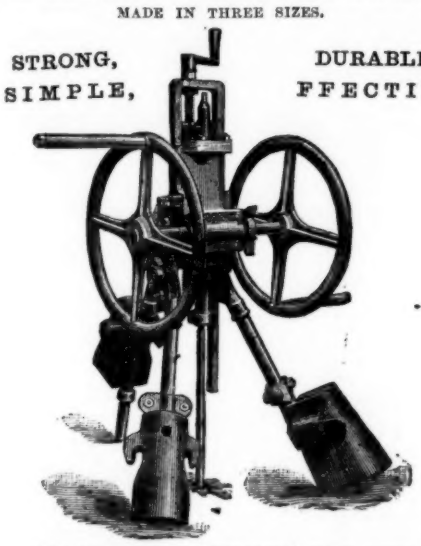
For terms, apply at Head Office of the Company,
108a, Hope Street, GLASGOW.

THE "MONARCH" ROCK DRILL,

FOR HAND OR ELECTRIC POWER,

MADE IN THREE SIZES.

STRONG, SIMPLE, DURABLE, EFFECTIVE.



TWO MAN POWER "MONARCH" HAND DRILL.

The most effective Machine for Boring Rock by Hand Labour or Electricity.

FOR PARTICULARS AND PRICES APPLY TO

J. H. WEATHERDON,
37, QUEEN VICTORIA STREET, LONDON, E.C

TURBINES.

Little Giant Turbine.

The well-known "LITTLE GIANT" for developing Water Power with any fall from 3 feet and upwards.

CATALOGUES FREE.

S. HOWES,
64, MARK LANE, LONDON.

Telegrams: BARBEAU, LONDON.

THE DUNDEE ADVERTISER,

The LEADING DAILY PAPER in SCOTLAND North of the FORTH.

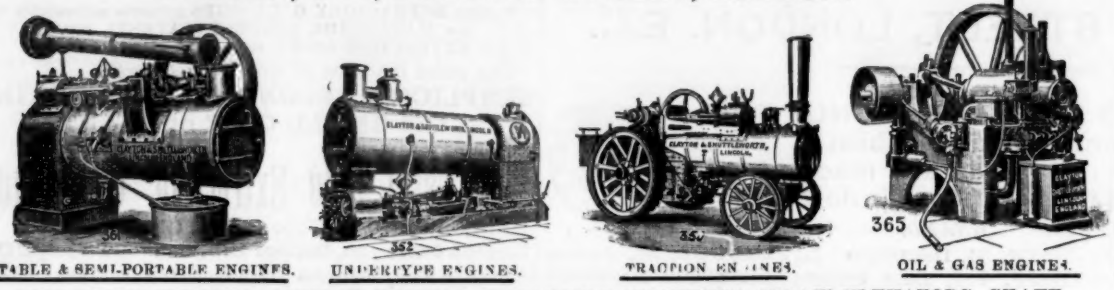
FIRST in CIRCULATION. FIRST in INFLUENCE.
FIRST in ADVERTISEMENTS.
FIRST in PARLIAMENTARY NEWS.
FIRST in GENERAL INTELLIGENCE.
FIRST in COMMERCIAL INFORMATION.

The Recognised Advertising Medium for Dundee, Forfarshire, Fifeshire, Perthshire, and North of Scotland.

JOHN LENG and Co.,
7 to 25, Bank St., Dundee and 186, Fleet St., London.

CLAYTON and SHUTTLEWORTH,

LINCOLN, & 78, LOMBARD STREET, LONDON.



PORTABLE & SEMI-PORTABLE ENGINES. UNDERTYPE ENGINES. TRACTION ENGINES. OIL & GAS ENGINES.

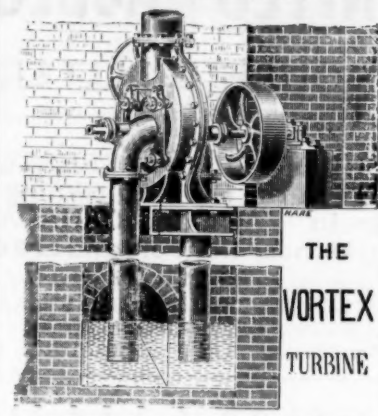
ALSO FIXED ENGINES, CORNISH BOILERS, THRASHING MACHINES, STRAW ELEVATORS, CHAFF CUTTERS, MAIZE SHELLERS, GRINDING MILLS, SAW BENCHES, &c.

UPWARDS of *57,000 ENGINES* and *THRASHING MACHINES* MADE and SOLD.

CATALOGUES FREE by POST to any PART of the WORLD.

☞ Owing to increased facilities CLAYTON and SHUTTLEWORTH can now execute orders at short notice.

PRIZE MEDALS { London, 1862. Paris, 1867. Calcutta, 1884. **G. GILKES & Co.,** LIMITED, KENDAL.



Illustrated Descriptive Pamphlets, with numerous Testimonials supplied on application.

THE VORTEX TURBINE

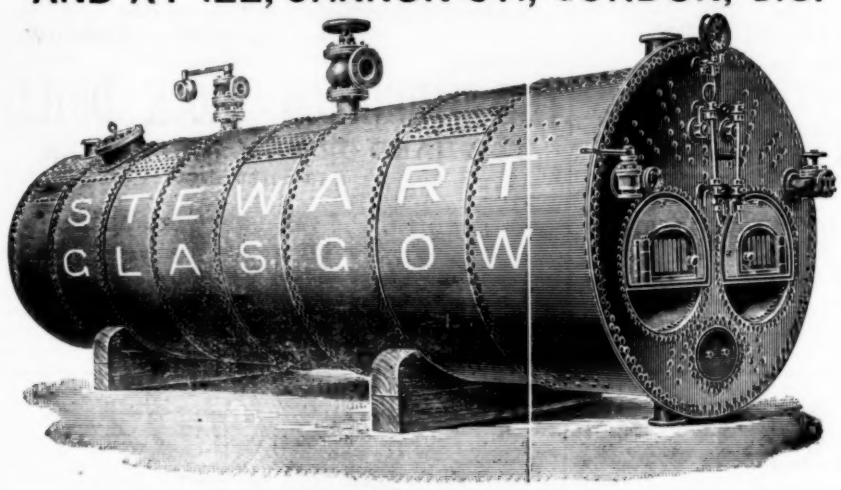
- Self Contained.
- Easily Fixed.
- Economical.
- Efficiency Guaranteed.
- Regular in Speed

LARGELY USED FOR ORE CRUSHING AND ELECTRIC LIGHTING, AND MILLS OF ALL DESCRIPTIONS.

D. STEWART and CO., Limited,

London Road Iron Works,

AND AT 122, CANNON ST., LONDON, E.C.



GLASGOW,

ENGINEERS

AND

BOILER MAKERS.

Telegraphic Address:
"STEWART," GLASGOW.
"OPERAMETER," LONDON.

A.B.C. Code.
Private Code.

Catalogues on Application.

The Head does not revolve when Breaking.

EXTERIOR VIEW—Showing Crushin Head.

Manufacturers of Mining Machinery and complete Macadam Plants.

GATES ROCK AND ORE BREAKER.

Capacity in Tons of 2000 Pounds.

Size 0—2 to 4 tons per hour.	Size 3—10 to 20 tons per hour.	Size 6— 30 to 60 tons per hour.
„ 1—4 to 8 „ „	„ 4—15 to 30 „ „	„ 7— 40 to 75 „
„ 2—6 to 12 „ „	„ 5—25 to 40 „ „	„ 8—100 to 150 „

Passing 2½ in. ring, according to character and hardness of material.

GREAT SAVING IN POWER. Adjustable to any Degree of Fineness.

The principle involved in this Breaker acknowledged to be the greatest success ever introduced into Stone Breaking machinery.

Send for Catalogue, containing over 500 references of Contractors, Miners, Railway Companies, Cement Makers, etc.

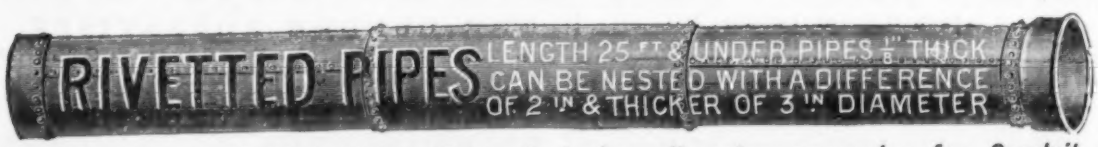
By the use of this machine cubical road metal can be produced at a low cost.

GATES IRON WORKS (A)

73a, QUEEN VICTORIA STREET, E.C., LONDON, ENGLAND.
44, Dey Street, New York, U.S.A.
WORKS: 50, South Clinton Street, Clybourn Ave and Willow Street, Chicago,
"AGENTS FOR GATES CORNISH ROLLS PULVERISER."

Simple, Durable, Compact, Dustless, giving a Finished Product direct from the Machine. The best Ore Granulator for Leaching and Concentrating in the World.

THOMAS PIGGOTT & Co., Ltd., ATLAS WORKS, BIRMINGHAM.



Telegraphic Address:—
"ATLAS," BIRMINGHAM.

Welded and Rivetted Pipes, from 8 inches diameter upwards, for Conduit of WATER, GAS, AIR, and other purposes.

Large Quantities hve been Sold for Mining Purposes and for Conducting Water to Turbines.

London Office:—
14, GREAT St. THOMAS APOSTLE, E.C.
Telegraphic Address:—
"INTERSECTION," LONDON.

MINING MACHINERY

OF ALL KINDS.

SPECIALITY.

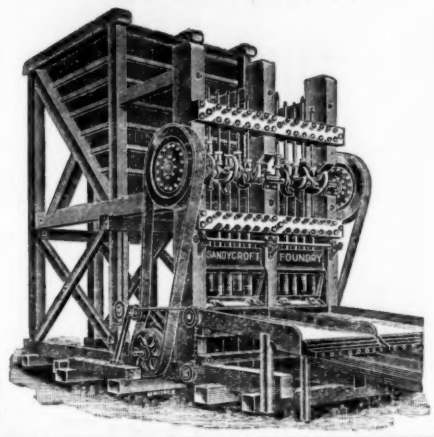
QUARTZ CRUSHING AND

High Pressure and Compound
WINDING, PUMPING & DRIVING ENGINES.

Air Compressors and Rock Drilling Plant.

WATER WHEELS & CORNISH PUMPS.

The SANDYCROFT FOUNDRY & ENGINE



AMALGAMATING MACHINERY.

GOLD

STAMP MILLS

OF THE LATEST and MOST APPROVED DESIGNS.

"SANDYCROFT" SHOES and DIES

Acknowledged to be the best that are made.

WORKS Co. (Limited), near CHESTER.

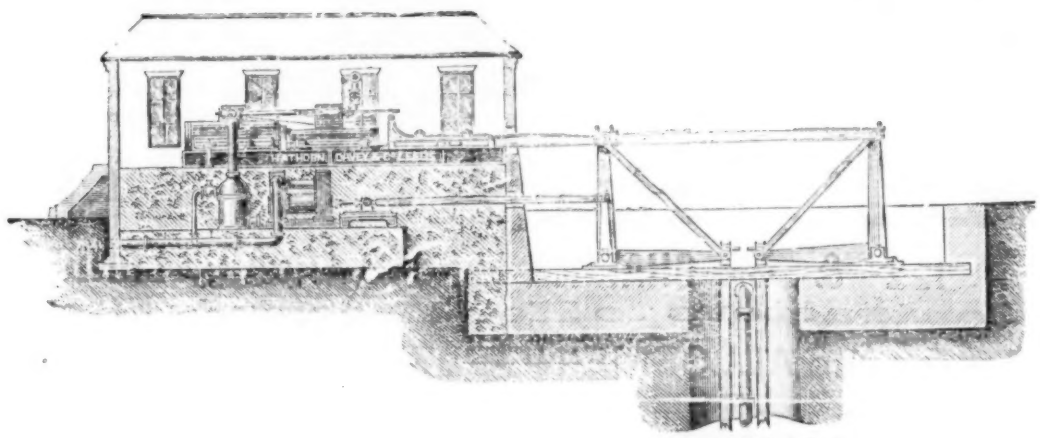
HATHORN, DAVEY & CO.,

LEEDS.

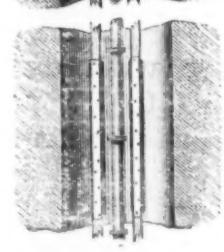
The DAVEY PUMPING ENGINE for DRAINING MINES

Is in use all over the World, and unquestionably has proved itself to be without a rival in SAFE and EFFICIENT WORKING and ECONOMY.

REGISTERED TELEGRAPHIC ADDRESS:



"HATHORN, LEEDS."



SURFACE ENGINES 10 to 1000 HORSE POWER.

UNDERGROUND ENGINES.

STEAM PUMPS, COMPOUND AND TRIPLE EXPANSION.

HYDRAULIC PUMPS.

DRAINAGE PUMPS. WATER WORKS PLANT. DOCK MACHINERY, CAPSTANS, &c.

CATALOGUES ON APPLICATION.

IMPROVED

Winding Indicators

WITH
INDICATING SIGNAL BELL
COMBINED,

As shown in Illustration,

Or either of the two separately as required.

Made to suit any Winding Engine or for hauling purposes; with Bell, to denote when to cut off steam; which can be altered in a few minutes to ring at any part required

PRICES AND PARTICULARS—

Parkin,

LIVERSEDGE, YORKS.

Watch this Advertisement every other week.

SOLE AGENTS FOR SCOTLAND:
Messrs. ARCHD. BAIRD & SON,
59-61, Waterloo Street, Glasgow.

Export Agent:—Mr. STEPHEN HUMBLE, Junr.,
9, Victoria Street, Westminster, S.W.

THOS. W. WARD, Sheffield.

All SECTIONS, LIGHT and HEAVY.

TRACINGS with QUOTATIONS.

RAILS

New and Second-hand.

Accessories.

WRITE FOR LIST OF DEFECTIVE AND SECOND-HAND RAILS.

JOISTS, GIRDERS, COLUMNS, &c.

LOCOMOTIVES, CRANES, BOILERS, TANKS, AND MACHINERY OF EVERY DESCRIPTION.

Buyers of SCRAP in all PARTS of the UNITED KINGDOM.

The COUNTY GENTLEMANS PAPER for Cheshire, Shropshire, and North Wales is

THE CHESTER COURANT.
(ESTABLISHED 1730.)

The CHESTER COURANT goes into all the best houses, and has a Subscription List of remarkable scope and character.
It is a most suitable medium for advertising Patent Machinery used on large Farms or County Estates

DELTA METAL

FOR ALL ENGINEERING WORK.

STRONGER AND MORE DURABLE THAN STEEL.

Specially Adapted for MINING WORK

on account of its very high Resistance to Corrosion.

DELTA

CAST, FORGED, STAMPED, ROLLED, DRAWN.

For full Particulars and Prices apply to

THE DELTA METAL COMPANY (Ltd.),
110, Cannon Street, London, E.C.

Telegrams:—"DELTA," London Telephone No. 11292.

NORTH QUEENSLAND REGISTER

THE LEADING NORTH QUEENSLAND WEEKLY,

PUBLISHED AT CHARTERS TOWERS, NORTH QUEENSLAND.

MINING A SPECIALITY.

Subscription £1 4s. per annum; including postage to Great Britain £1 15s. per annum.

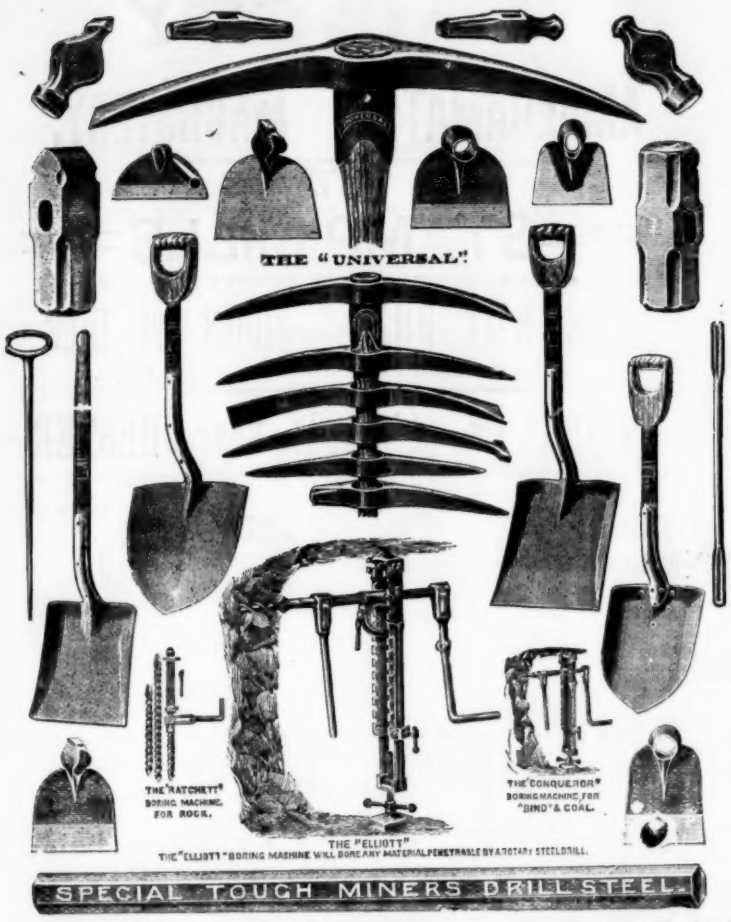
Address communications to—

THE NORTHERN MINER PRINTING AND PUBLISHING COMPANY, CHARTERS TOWERS, QUEENSLAND

HIGH-CLASS TOOLS,

For Miners, Quarrymen, Contractors & Agriculturists,

OF ALL PATTERNS & FOR ALL MARKETS.


THE "UNIVERSAL."
THE "RATCHETT" BORING MACHINE, FOR ROCK.
THE "ELLIOTT"
THE "ELLIOTT" BORING MACHINE WILL BORE ANY MATERIAL PENETRABLE BY A ROTARY STEEL DRILL.
THE "CONQUEROR" BORING MACHINE, FOR "BIND" & COAL.
SPECIAL TOUGH MINERS DRILL STEEL.

Makers of the

"UNIVERSAL" & "ACME" MINING & NAVVY PICKS.

HAND AND POWER BORING MACHINES FOR ROCK AND COAL.

PICKS, SHOVELS, SPADES, FORKS, HOES, AXES, HAMMERS, WEDGES, CROWBARS.

Special Tough Drill Steel, Shear, Cast, and Blister Steel.

SAWS, FILES, AND RASPS.

Importers of Hickory Handles.

THE HARDY PATENT PICK COMPANY (LIMITED),

Sheffield, England.

The ELECTRICAL COMPANY, Ltd.

Telegrams: "Galvanoscope," LONDON.

122 & 4, CHARING CROSS ROAD, LONDON, W.C.,

Contractors to Her Majesty's Government.

Telephone No. 35,028.

SOLE AGENTS for the ALLGEMEINE ELEKTRICITAETS GESELLSCHAFT, BERLIN.

Capital fully paid up £1,000,000.

Transmission of Power with direct and three-phase alternate currents, our System saving from 30 to 60 per cent. in comparison to all other Methods.

Annual output of dynamos and motors over 2,000; from 1-16 h.p. to 1,500 h.p.

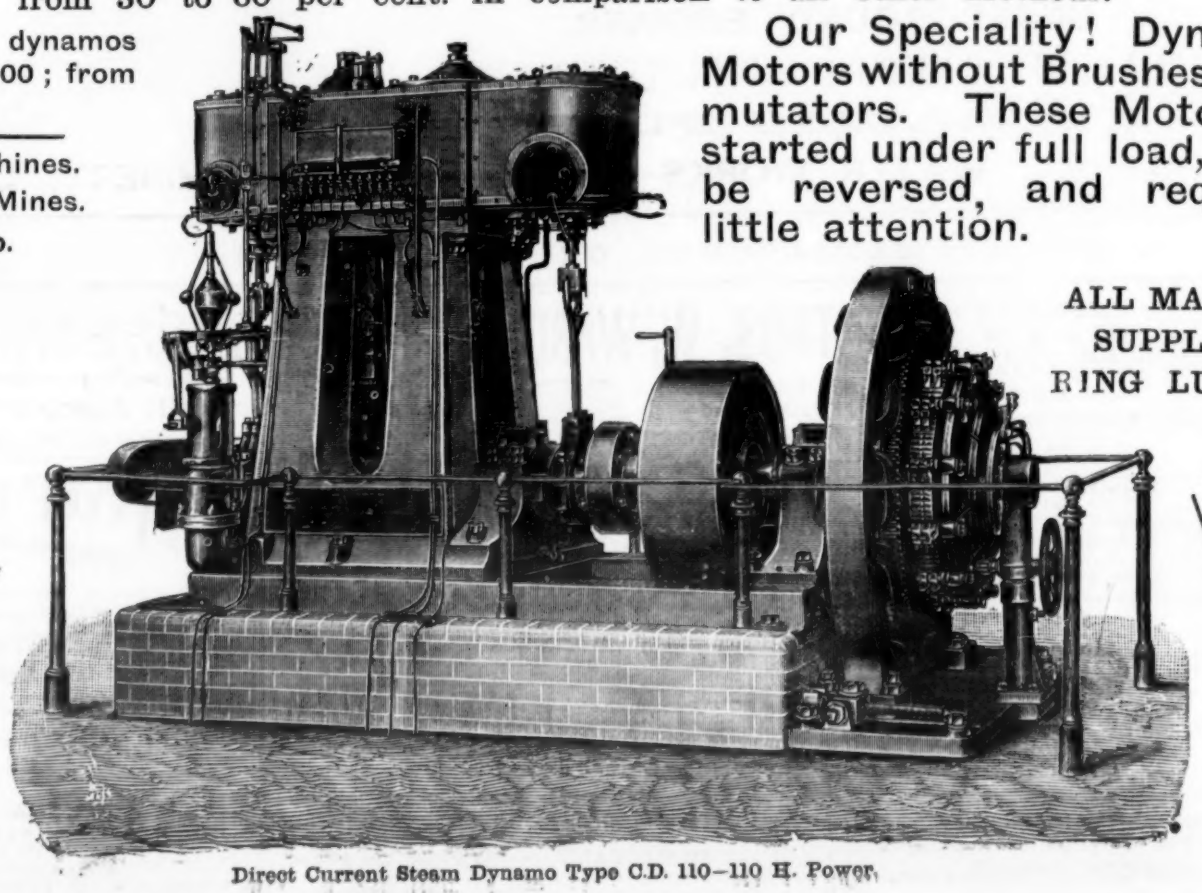
Electric Drilling Machines.
Electric Pumps for Mines.
Electric Hoists do.
Electric Railways.
Electric Tramways.
Electric Cranes.
Electric Lifts.
Electric Ventilators.

Our Speciality! Dynamos and Motors without Brushes and Commutators. These Motors can be started under full load, can easily be reversed, and require very little attention.

ALL MACHINES ARE SUPPLIED WITH RING LUBRICATORS.

Cheapest and Best the Trade can Produce.

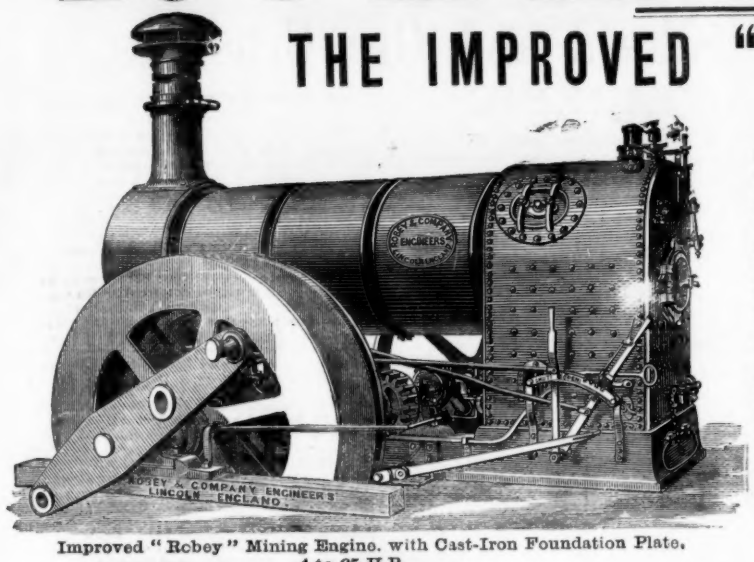
Highest Efficiency. Best Workmanship and Material Guaranteed.



Direct Current Steam Dynamo Type C.D. 110–110 H. Power.

ROBEY & Co., LIMITED.

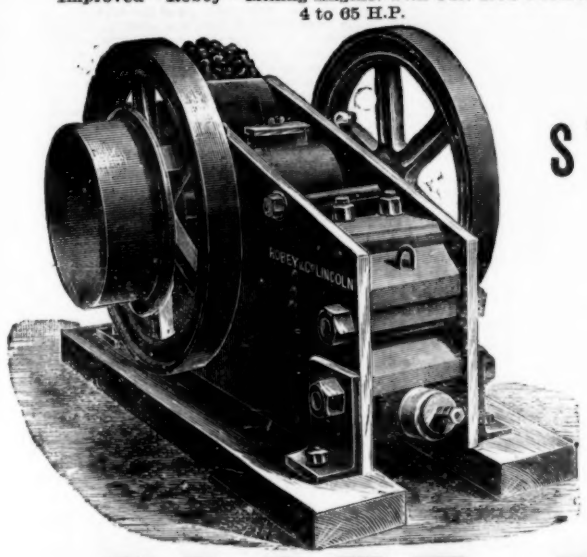
THE IMPROVED "ROBEY" MINING ENGINE.



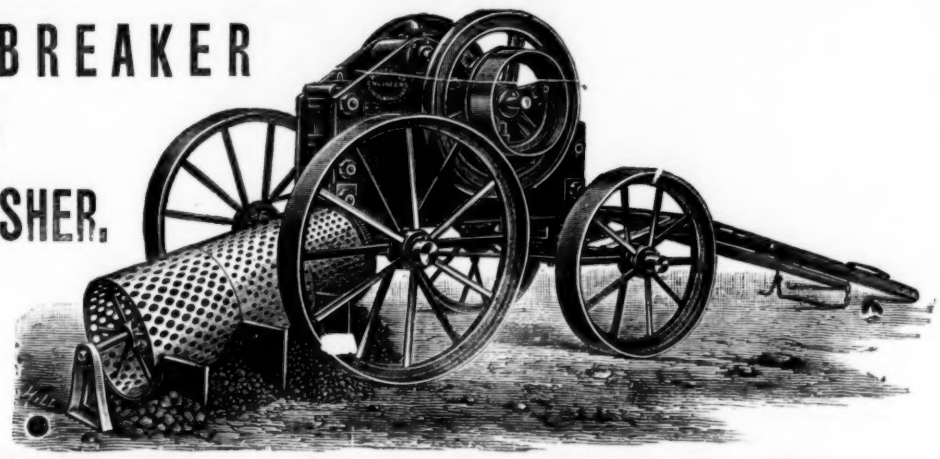
Improved "Robey" Mining Engine, with Cast-Iron Foundation Plate, 4 to 65 H.P.

Also manufacturers of Portable Engines, Semi-Portable Engines, Robey Engines and Locomotive Boilers, combined (both Compound and Simple); Vertical Engines, High Speed Engines, Horizontal Fixed Engines (Simple and Compound), Sugar Mills, Locomotive, Cornish and Vertical Boilers, Winding Engines, Head Gears, Mine Pumps, Centrifugal Pumps, and every description of Machinery for Builders and Contractors Also makers of Patent Gas Engines and Patent Portable and Semi-Fixed Oil Engines.

Improved "Robey" Mining Engine, with Patent Wrought-Iron Tank Foundations, 4 to 65 H.P. Specially designed and adapted for export.



IMPROVED STONE BREAKER AND ORE CRUSHER.



GLOBE WORKS, LINCOLN.

SAFETY BLASTING IN COAL AND SHALE, ETC.

SETTLE'S Patent GELATINE WATER-CARTRIDGE

NOBEL'S EXPLOSIVES COMPANY (Limited), Glasgow, having acquired from Mr. MILES SETTLE the Sole Patent Rights of his Water-Cartridge System of Blasting have now arranged to supply through their local Agents all the Appliances required in connection therewith.

ADVANTAGES OF USING SETTLE'S PATENT GELATINE WATER-CARTRIDGE:

1.—SAFETY IN BLASTING. 2.—NO SMOKE. 3.—NO SPARK OR FLAME. 4.—NO FUMES. 5.—ALL COAL GOTTEN IN LUMPY CONDITION AND WITH A MUCH SMALLER PERCENTAGE OF SLACK THAN IN BLASTING WITH POWDER. 6.—GREAT SAVING OF COST OWING TO MORE EFFICIENT BLASTING, AND TO REDUCTION OF MANUAL LABOUR. 7.—SIMPLICITY OF THIS METHOD OF BLASTING.

Trained Experts will carry out experiments, and instruct Colliery Managers, Miners, &c., FREE OF CHARGE, on application to Nobel's Explosives Company (Limited), Glasgow, or to their Consulting Engineer.

The use of the WATER-CARTRIDGE is recommended by the Royal Commission on Accidents in Mines.

For full information apply to **NOBEL'S EXPLOSIVES COMPANY** (LIMITED), GLASGOW, or to H. ENFIELD TAYLOR, M.Inst.C.E., the Company's Consulting Engineer, 15, Newgate Street, Chester.

MANUFACTURERS OF GELATINE-DYNAMITE, DYNAMITE, DETONATORS, ETC. ETC.

From His Grace the Duke of Rutland.
Belvoir, Grantham,
December 1st, 1879.

SIRS,—Elliman's Royal Embrocation is used in my stables; I think it very useful.
RUTLAND.
Master of the Belvoir Hounds.

—o—

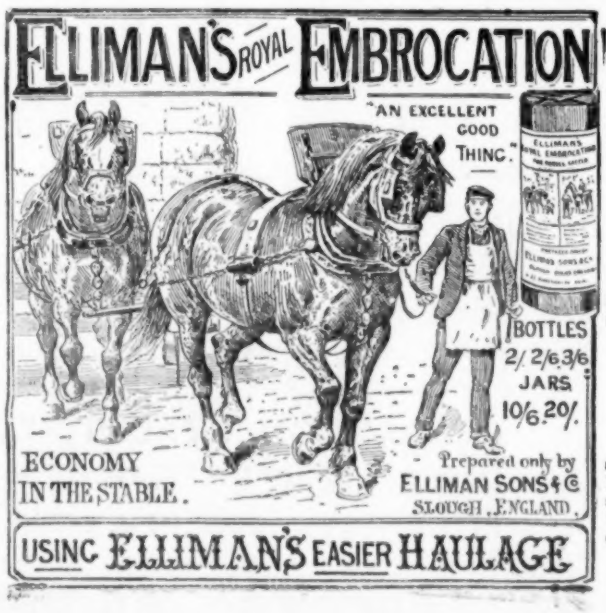
From the Earl of Harrington
January 9th, 1889.

SIRS,—Elliman's Royal Embrocation is used in my stables, and I consider it the best that I can obtain. HARRINGTON.
Master of the South Wilts Hounds.

—o—

From Major M. J. Balfe,
South Park.
June 16th, 1892.

SIRS,—Elliman's Royal Embrocation is used in my stables, and I can highly recommend it.
M. J. BALFE.
Master of the Roscommon County Staghounds.


ELLIMAN'S ROYAL EMBROCATION
"AN EXCELLENT GOOD THING."
BOTTLES 2/ 2/6 3/6
JARS 10/6 20/
ECONOMY IN THE STABLE.
Prepared only by ELLIMAN SONS & Co. SLOUGH, ENGLAND.
USING ELLIMAN'S EASIER HAULAGE

From Lord Haddington, Tyningham, Prestonkirk, N.B.
December 27th, 1885.

SIRS,—Elliman's Royal Embrocation is used in my stables, and I consider it indispensable in any stable, but especially in the stable of a Master of Hounds.
HADDINGTON.
Master of the Berwickshire Hounds

—o—

From R. Burdon Sanderson, Esq., Warren House, Belford.
July 10th, 1892.

SIRS,—Elliman's Royal Embrocation is used in my stables, and I consider it very useful.
R. BURDON SANDERSON.
Master of Percy Foxhounds.

—o—

From Wm. J. Buckley, Esq., Penyfai, Llanelly.
July 16th, 1892.

DEAR SIRS,—I have much pleasure in recommending your Royal Embrocation. I always keep a stock in my stables and kennels. My farm bailiff has also found it of much value among my herd.
WM. J. BUCKLEY.
Master of Carmarthenshire Foxhounds.

THE MONTAN ZEITUNG

For Austria, Hungary, and the Balkan States, Graz (Austria), has the largest circulation of any technical paper on the Continent, and

IS THE BEST MEDIUM

to advertise English Machinery and Appliances for

MINING, MANUFACTURING, AND ALL INDUSTRIAL PURPOSES

throughout Austria, Hungary, Servia, Bulgaria, Roumania, Montenegro, &c.

For general information and scale of Advertisements, apply to
F. MANSFIELD and CO.,
2, Lion Chambers, BRISTOL.

THE INDIAN ENGINEER.

AN
ILLUSTRATED WEEKLY JOURNAL
FOR
ENGINEERS IN INDIA AND THE EAST.

The "INDIAN ENGINEER" contains the latest and most authentic information on all subjects connected with Engineering enterprise in India and the East.

Subscribers when in England can make use of our London Office (1-2, Victoria Mansions, Westminster, S.W.), and can have letters addressed there and forwarded when travelling.

Correspondence invited on any subject which may be of interest to the profession.

RATES OF SUBSCRIPTION (payable in advance, including a copy of the INDIAN ENGINEER'S DIARY):—

Thick paper Edition, including postage		Thin paper Edition, including postage	
Yearly	Rs. 20	Yearly	Rs. 15
Half-yearly	Rs. 11	Half-yearly	Rs. 8
Quarterly	Rs. 6	Quarterly	Rs. 5

Published at 5-6, Government Place, Calcutta.

Awarded the ONLY Gold Medal for Stonebreaker at the International Inventions Exhibition, in competition with all other makes.

THE BLAKE-MARSDEN 1884 Patent

Lever Hand-Hammer Action Stonebreakers and Ore Crushers,

NEW PATENT FINE CRUSHER OR PULVERIZER.

Fitted with Patent Reversible Cubing and Crushing Jaws in Five Sections, and with Surfaced Backs, requiring no White Metal in fixing. Crucible Cast Steel Levers and Toggle Cushions, Brass or Gun Metal Bearings throughout.

Positive Draw Back Motion taking no power to work, and entirely dispensing with the old expensive Steel Embedded Spring. The motion or length of Stroke of the Jaw can be increased or decreased at pleasure, to suit any material.

OVER **5000** IN USE.

All Shafts and Axles are made of the Best Hammered Steel.

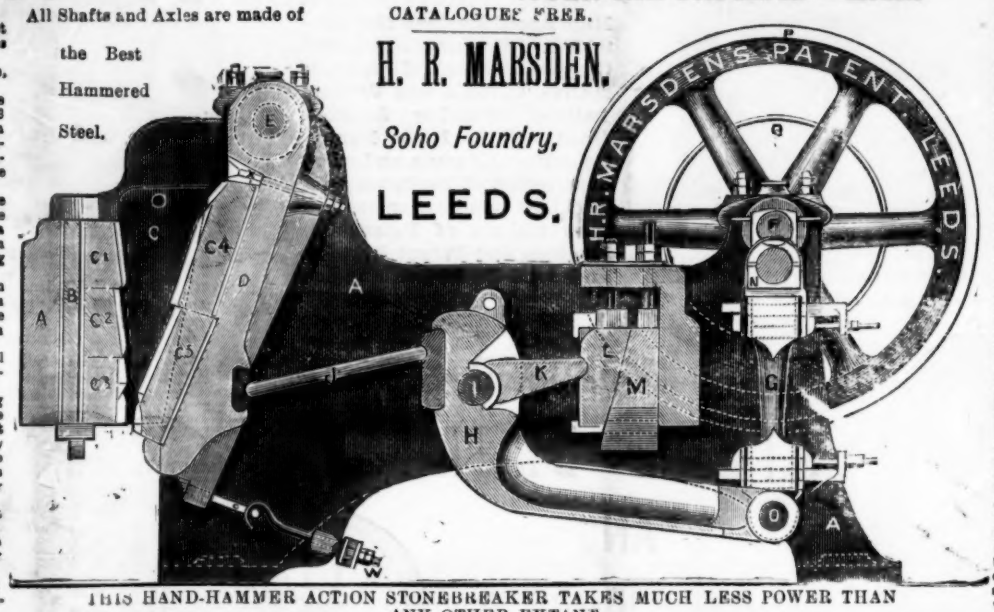
70 First-Class Gold and Silver Medals

CATALOGUES FREE.

H. R. MARSDEN.

Soho Foundry,

LEEDS.



THIS HAND-HAMMER ACTION STONEBREAKER TAKES MUCH LESS POWER THAN ANY OTHER EXTANT.

PULVERIZER TESTIMONIAL

The Fine Crusher we had from you in August last is an excellent pulverizer, and rapidly reduces hard material to a fine powder."

"The Pulverizer has now been working two months, and answers its purpose most satisfactorily."

"It is with the greatest satisfaction that we write these few lines in order to acquaint you that the 12×3 Pulverizer you provided us with, has quite fully given the results you represented to us, completely reducing our material to an impalpable powder at one operation. Should you refer any one to us we should have much pleasure in recommending the machine."

"I have great pleasure in bearing testimony to the merits and capabilities of your patent combined fine crusher and sieving apparatus. I have tried it on a variety of ores and minerals, and it pulverizes them with equal success. You can put in a small paving stone and bring it out like flour."

"In reply to your favour, I have much pleasure in informing you that the 12×3 Pulverizer we had from you is giving us every satisfaction. The material we are operating on is an exceptionally hard one. I am well satisfied with its working."

"Our experience is that the motion and mechanical arrangements of your machine are the best for pulverising that we have ever met with"

"The reports from our mines as regards the working of your Fine Crusher (20×5) recently supplied are very favourable, although we cannot quote you exact figures. On being got into position it was tried by hand, with the result that it made short work of the biggest pieces of ore we put into the hopper. You might say how long you would take to deliver another of the same size."

"As I once before stated, your machine is a perfect pulverizer."

"I am sure the machine will be a success, and a great one, and there is any amount of demand for such a machine. We can work it with 20 lbs. of steam and our engine, which is a 12-h.p., plays with the work, in fact we run the Stonebreaker and the Pulverizer both together with 35 lbs."

STONEBREAKERS AND ORE CRUSHER TESTIMONIALS.

"We have great pleasure in testifying to the efficiency of the 15 in. by 8 in Lever Hand Hammer Motion Stone Breaker you supplied us with. We find that our 4 h-p. Engine with ease drives it 250 revolutions per minute, and breaks six ton per hour of the hardest "Diorite" Whinstone: the sample is much before any hand-broken we have ever got done. Our Mr. P. J. GRAHAM, C.E., who was Surveyor of Highways for ten years, before joining our firm, says: It is by far the most economical machine he ever had to do with; he had two of your former make, and two of another firm's make; compared with these four machines your new patent gives the following advantages:—The horse-power required to drive is exactly 40 per cent. less. The sample of the broken macadam is so far superior to that broken by other machines, and even to that broken by hand that we can make no comparison. I is by far the best sample we have ever seen."

"I now order three of your Stone Crushers, size 15 by 10, to be of your very best construction, and to include two extra sets of Jaws and Cheeks for each. The last two 24×13 machines you sent me, which are at work in this colony, are doing very well. You will soon find that the railway contractors will adopt your machines in preference to the colonial ones—two of which I have. I know other contractors have had as many as nine of them, which have not given very good satisfaction. Once they know of yours thoroughly, I believe you will do a good trade with the colonies. For reference of the high character of your constructions you can refer to me as having used them with the very best results, both in New Zealand and this colony, and much prefer them to the colonial article, both in point of construction and less liability to go out of order. The material we are crushing is very hard blue stone, for railway ballast purposes. Push on with the order as quickly as possible: I do not think it necessary to have any engineering inspection. I have brought your machines prominently under the notice of all large contractors in this colony, likewise the Government. Many of the contractors have spoken to me in reference to their capabilities, and I could only tell them that they are by far and away the best and most economical I ever used. The very fact of me having purchased eleven from you at various intervals and various sizes, and two above 12 years ago, and having tried all the other makers is sufficient guarantee of the capabilities and the working of your machines. Yours in every way surpass all others."

THE UNITY SAFETY FUSE CO.

ESTABLISHED 1846

MANUFACTURERS OF ALL KINDS OF

SAFETY FUSE

OF THE BEST QUALITY FOR USE IN

MINING, QUARRYING, SUBMARINE,

AND ALL OTHER BLASTING OPERATIONS.

SPECIALLY PREPARED to SUIT any CLIMATE.

Works: SCORRIER, CORNWALL

TONITE

IS RECOMMENDED TO CONTRACTORS, MINERS, PIT SINKERS, QUARRYMEN, AND OTHERS, AS BEING THE SAFEST OF ALL EXPLOSIVES.

TONITE is a most efficient and economical blasting agent, and is largely in demand. It is exempt from freezing and the consequent dangerous process of thawing.

THE COMPANY ALSO MANUFACTURE

GELIGNITE, BLASTING GELATINE, &c.

DETONATORS, Suitable for all Classes of Explosives.

ELECTRIC DETONATORS, High or Low Tension.

ELECTRIC APPLIANCES, of all Descriptions.

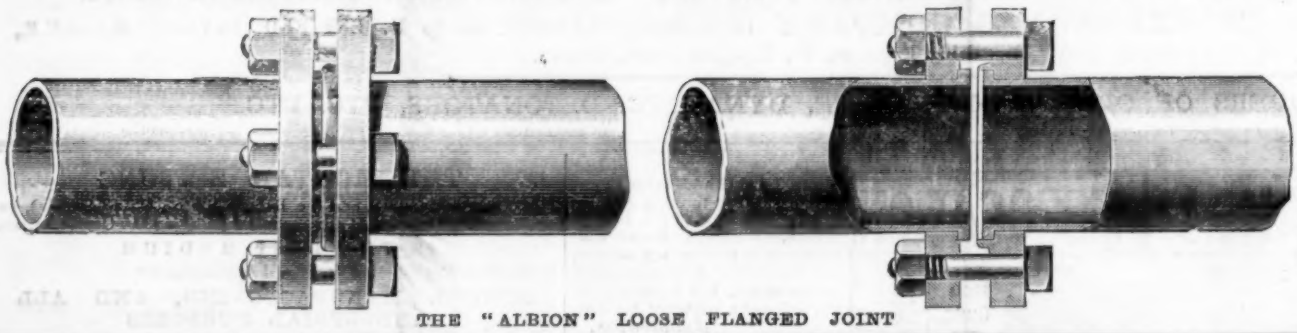
SAFETY FUSE.

Address—THE COTTON POWDER COMPANY (Limited),

116, QUEEN VICTORIA STREET, E.C.

SPECIALITE:—ELECTRIC WELDING.

LLOYD & LLOYD



THE "ALBION" LOOSE FLANGED JOINT

WORKS:

Albion Tube Works, BIRMINGHAM.

Coombs Wood Tube Works, HALESOWEN.

WAREHOUSES:

London—90, Cannon Street, E.C., and 167, Upper Thames Street.

Birmingham—Nile Street, Sheepcote Street, & 10, Coleshill Street.

Liverpool—63, Paradise Street.

Manchester—42, Deansgate.

IRON & STEEL TUBES

FOR ALL MINING PURPOSES.

TELEGRAMS: TUCKS LONDON.

TUCKS

GENUINE PACKING

IS ONLY MANUFACTURED BY

TUCK AND CO., LIMITED.

116, CANNON STREET, LONDON;

And at LIVERPOOL, CARDIFF, NEWPORT, BARRY, SOUTHAMPTON, DUBLIN & MELBOURNE.

WRITE FOR SAMPLES & PRICE

INDIARUBBER, LEATHER, AND ASBESTOS GOODS.

EDITORIAL AND ADVERTISEMENT OFFICES:—15 FINCH LANE, E.C.

Printed for the Registered Proprietors by JOHN ROBERT GALE at their Printing Offices, 3, DORSET BUILDINGS, SALISBURY SQUARE, in the Parish of St. Bride's, in the City of London.—*May 4*, 1895.